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# STUDIES ON PRESENT ARCHITECTURE CURRICULUM IN INDIA AND ITS RELEVANCE IN TODAY'S CONTEXT

Thesis submitted by

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## List of Abbreviations

| Sr.No. | Abbreviation | Name |
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| **1.** | **CoA** | Council of Architecture |
| **2** | **AICTE** | All India Council for Technical Education |
| **3** | **UGC** | University Grants Commission |
| **4** | **NEP** | National Education Policy |
| **5** | **NRF** | National Ranking Framework |
| **6** | **ABC** | Academic Bank of Credit |
| **7** | **BIM** | Building Information Model |

# CHAPTER -1

# INTRODUCTION

## 1.1 Introduction:

Over the years, architecture education in India has experienced substantial changes, moving from ancient knowledge systems based on Vastu Shastra to a contemporary curriculum impacted by international design trends and technology breakthroughs. Formal architectural education was first offered in India during the colonial era, when establishments such as the Sir J.J. School of Art and Architecture laid the groundwork for organised instruction in the discipline. In response to the evolving needs of the built environment, the curriculum has grown throughout time to include new design approaches, building technologies, and sustainability concepts (Agrawal & Deo, 2021).

However, concerns are raised about the applicability of the existing undergraduate architecture curriculum in tackling modern issues like climate change, digitalisation, and urban resilience as urbanisation picks up speed and social demands alter. The historical development of architecture education in India is examined in this chapter, along with how it has changed in response to different pressures and whether or not it effectively prepares students for the challenges of contemporary architectural practice. This study aims to determine how successful and relevant the current curriculum is in preparing future architects by examining regulatory frameworks, pedagogical changes, and industry expectations (Banerjee, 2019).

### 1.1.1 Evolution of Architecture Education in India

Civilisations have been significantly shaped by architecture, which reflects the sociocultural, technical, and economic developments of many historical periods. With a rich architectural history that dates back thousands of years, India has transformed from the opulence of the Mughal Empire and ancient temple architecture to modern metropolitan infrastructure. India's formal architectural education has changed significantly in response to shifting social demands, advancements in technology, and external influences. The colonial influences, post-independence innovations, and contemporary regulatory frameworks that continue to shape architectural pedagogy are the origins of the current architecture curriculum in undergraduate (UG) schools.

### 1.1.2 Traditional Architectural Knowledge and Early Education

India has a well-established system of traditional architectural knowledge distribution prior to the formalisation of architectural education. Ancient writings like the Vastu Shastra and Shilpa Shastra provide comprehensive instructions on how to organise a community, design a temple, and construct buildings. Through the Guru-Shishya Parampara (teacher-disciple lineage), master builders, artisans, and craftsmen taught apprentices design concepts, building methods, and material utilisation. This was the traditional method of passing down architectural knowledge. For decades, this native method persisted, inspiring famous constructions like the stepwells of Gujarat, the forts of Rajasthan, and the temples of Khajuraho. When Mughal dominion arrived in India, architectural styles underwent a dramatic change. Indo-Islamic architecture, which is distinguished by domes, arches, minarets, and elaborate geometric patterns, was influenced by Persian and Central Asian architecture. Structures like the Taj Mahal, Fatehpur Sikri, and Gol Gumbaz were built with a combination of foreign and native workmanship. Nevertheless, architectural knowledge was not formalised in a curriculum and continued to exist among guilds and traditional workshops even throughout this time.

### 1.1.3 Colonial Influence and the Beginnings of Formal Education

The construction of formal training institutes was one of the significant changes in education brought about by the arrival of British authority in India. European building methods and architectural styles were adopted as a result of British influence, and structured education based on Western architectural concepts took the place of ancient knowledge systems. The founding of the Sir J.J. School of Art in Bombay (now Mumbai) in 1857 was the first important turning point in the history of architectural education. In 1913, architecture was officially recognised as a subject. By focussing on traditional European styles and Beaux-Arts ideas, which were then prominent in Britain, this school was a trailblazer in the training of architects. However, rather than encouraging autonomous architectural thought, the curriculum primarily concentrated on creating draughtsmen and designers to meet colonial administrative demands.

Other establishments like the School of Planning and Architecture (SPA), Delhi, in 1941, and the Department of Architecture at the Bengal Engineering College (now IIEST, Shibpur) in 1904 were made in the late 19th and early 20th centuries. With their integration of planning, engineering, and creative expression, these schools established the groundwork for professional architectural education in India. Colonial design inclinations progressively gave way to tackling India's urban development issues.

### 1.1.4 Post-Independence Developments and Regulation of Architecture Education

India started a project to update its urban planning and infrastructure after gaining independence in 1947. A more thorough approach to architectural education was required due to the requirement for planned urban development, industrialisation, and the quick expansion of cities. The government's dedication to architectural education was demonstrated by the founding of organisations like the School of Planning and Architecture (SPA) Delhi in 1959, as well as comparable schools in Bhopal and Vijayawada.

Under the Architects Act of 1972, the Council of architectural (COA) was founded in recognition of the need for a uniform framework for architectural education. In India, the COA emerged as the main regulatory authority in charge of regulating architects' professional behaviour, education, and certification. This was a significant turning point that made sure architecture programs matched national standards and changed to meet changing societal demands. A five-year Bachelor of Architecture (B.Arch) curriculum that integrates technical skills, studio-based learning, theoretical knowledge, and hands-on training through internships is required by the COA (Council of Architecture, 2020).

India's architectural programs started to broaden after independence, including courses in sustainable design, landscape architecture, and urban planning. Modernist architects like Charles Correa, Louis Kahn, and Le Corbusier, who were instrumental in forming current Indian architecture, also had an impact during this time. Functionalism, climate-responsive design, and cultural identity were highlighted in their works, and these themes eventually made their way into university courses.

### 1.1.5 Globalization and the Impact on Architectural Education

Significant changes in architecture education were brought about by the 1990s economic liberalisation of India. The way architecture was taught and done was revolutionised by more exposure to global trends, technological and construction material breakthroughs, and the need for sustainable development.

New independent schools and private colleges arose at this time, providing architectural programs with a range of specialisations, such as digital fabrication, interior architecture, urban design, and conservation. Institutions started incorporating computational design, parametric modelling, and digital technologies like AutoCAD, Revit, Rhino, and Building Information Modelling (BIM) into the curriculum, even though the conventional five-year B.Arch degree was still the norm. In keeping with the objectives of global sustainability, green architecture, climate-responsive design, and smart city planning have gained popularity.

The curriculum was nonetheless criticised in spite of these developments. Numerous academics and industry professionals have identified discrepancies between architectural education and real-world industry demands. Graduates frequently found it difficult to adjust to obstacles in the real world as a result of the strict curriculum structure, restricted elective freedom, and insufficient practical training. This worry sparked demands for change that prioritised multidisciplinary education, working with experts in the industry, and including cutting-edge disciplines like digital heritage preservation, urban resilience, and artificial intelligence in architecture.

### 1.1.6 Current Scenario and the Need for Reform

There are currently more than 400 architectural undergraduate schools in India, and thousands of students graduate each year. In the upcoming years, architectural education may be greatly impacted by the flexible learning paths, multidisciplinary research, and outcome-based approach suggested by the National Education Policy (NEP) 2020. In order to better prepare students for professional practice, educational institutions are increasingly looking at methods to include research-driven learning, industry partnerships, and internships into their curricula (GOI, 2020).

But there are still a number of difficulties. The overall efficacy of architectural education is hampered by the faculty-to-student ratio, out-of-date course material, inadequate technology infrastructure, and a lack of research focus at certain schools. Furthermore, a curriculum that strikes a balance between creativity, technical competency, and social responsibility is required due to the rising influence of private real estate developers, market-driven architectural practices, and expanding urbanisation.

Reforms in architectural education must emphasise experiential learning, sustainability, digital competency, and flexibility in response to environmental and socioeconomic shifts in order to make it more applicable in the modern world. A hybrid learning paradigm, which combines conventional design studios with virtual simulations, real-world project partnerships, and policy-driven urban research, is probably what India's architectural education will look like in the future (Mehrotra, 2012).

The dynamic interaction of colonial influences, post-independence reforms, historical traditions, and current international trends is reflected in the development of architectural education in India. Even though the curriculum has undergone substantial revision, ongoing changes in architectural pedagogy are required due to the complexity of urbanisation, climate change, and technology improvements. Preparing the upcoming generation of architects who can meet the challenges of the twenty-first century while maintaining India's rich architectural past would require a forward-thinking, industry-aligned, and adaptable curriculum (Menon, 2015).

## 1.2 Regulatory Framework and Governing Bodies in Architecture Education in India

Several regulatory agencies oversee architecture education in India, and each one is essential to upholding curricular frameworks, professional ethics, and academic standards. The main bodies in charge of regulating various facets of architectural education and professional practice are the University Grants Commission (UGC), the Council of Architecture (COA), and the All India Council for Technical Education (AICTE). There has been a notable push for industry integration, curricular flexibility, and interdisciplinary learning since the National Education Policy (NEP) 2020 was introduced. The functions, duties, and effects of various regulating agencies on the undergraduate architecture curriculum are examined in this part, along with how NEP 2020 will affect architectural education in India going forward.

### 1.2.1 Regulatory Bodies in Architecture Education

A systematic regulatory framework oversees architecture education in India to guarantee industrial relevance, professional integrity, and academic achievement. The curriculum, certification requirements, and professional practice norms are shaped by a number of important organisations, including as the University Grants Commission (UGC), the Council of Architecture (COA), and the All India Council for Technical Education (AICTE). As the principal body in charge of regulating architectural education and licensing and guaranteeing adherence to professional standards, the COA was founded by the Architects Act of 1972. In contrast, the AICTE oversees technical education and has an impact on the faculty and infrastructure needs of architectural schools. Through its financing, research projects, and multidisciplinary learning opportunities, the UGC indirectly influences architectural education while simultaneously regulating higher education institutions. Collectively, these oversight organisations preserve the calibre and legitimacy of architectural education in India, guaranteeing that graduates are prepared to tackle today's environmental and urban issues. The need for a more flexible and cooperative approach to the regulation of architectural education is highlighted by discussions about overlapping authorities, curriculum rigidity, and changing industry needs (Mitra, 2016).

### 1.2.2 Council of Architecture (COA)

The main regulatory organisation in charge of regulating architectural profession and education in India is the Council of Architecture (COA). The COA, which was founded under the Architects Act of 1972, is charged with upholding standards in architectural education, overseeing the industry, and guaranteeing that architects behave ethically. Establishing minimal prerequisites for architectural education, such as curricular standards, faculty credentials, and infrastructure needs for schools that provide the Bachelor of Architecture (B.Arch.) degree, is one of its main responsibilities. Architecture colleges are also recognised by the COA, which guarantees that they adhere to quality standards and the established rules.

The COA is in charge of implementing a professional code of conduct, registering certified architects, and keeping a national database of practitioners in addition to regulating education. In order to determine if architectural institutions are according to its rules, it inspects them and has the authority to revoke recognition from those that do not. Additionally, by regularly updating the curriculum to take into account new trends, technological developments, and sustainability principles, the COA plays a significant role in developing the syllabus and teaching approach.

But there has been much discussion over the COA's regulatory power, especially in connection to other governing agencies like the University Grants Commission (UGC) and the All India Council for Technical Education (AICTE). Conflicts in curriculum design and policy execution might occasionally result from these agencies' overlapping jurisdiction. Notwithstanding these difficulties, the COA remains the primary body responsible for establishing and overseeing architectural education and professional practice in India, guaranteeing that architects possess the abilities and know-how required to make a significant contribution to the built environment (Mehrotra, 2012).

### 1.2.3 All India Council for Technical Education (AICTE)

Planning, developing, and regulating technical education in India, including architecture, is the responsibility of the All India Council for Technical Education (AICTE), a statutory agency. The council, which was founded in 1945 and later granted statutory authority by the AICTE Act of 1987, is essential to maintaining high standards of instruction, institutional growth, and uniformity across different technical and professional programs. Although the Council of architectural (COA) is mostly in charge of architectural education, AICTE also has a big say, especially when it comes to facilities, hiring teachers, sponsoring research, and technological developments (AICTE, 2021).

AICTE is in charge of authorising new technical schools, setting faculty-to-student ratios, encouraging innovation and research, and improving industry-academia cooperation. In order to keep students in line with business expectations, it also highlights how architecture courses should incorporate cutting-edge technology like Building Information Modelling (BIM), sustainable architecture, and smart city planning. The regulatory system established by AICTE guarantees that architecture schools function in accordance with international standards through required accreditation, faculty training programs, and funding for research and infrastructure development.

The areas of authority overlap between AICTE and COA, namely with regard to curriculum design and institutional approvals, have been the subject of continuous debate. AICTE's larger position in technical education occasionally causes disputes over governance regulations for architecture schools, whereas COA only concentrates on architecture education and professional practice. Notwithstanding these obstacles, AICTE continues to play a significant role in advancing interdisciplinary learning, modernising architectural education, and motivating educational institutions to embrace cutting-edge teaching strategies that meet the changing demands of the construction and built environment sectors (Kamat, 2018).

### 1.2.4 Role of National Education Policy (NEP) 2020 in Architecture Curriculum

With a focus on technological integration, flexibility, skill-based learning, and transdisciplinary learning, the National Education Policy (NEP) 2020 is a revolutionary framework designed to modernise the Indian educational system. In order to ensure that students obtain a comprehensive and industry-relevant education, NEP 2020 would bring fundamental improvements to architectural education that would be in line with international norms. In order to promote a holistic approach to design and problem-solving, the policy would promote interdisciplinary learning, which would enable architecture students to use information from disciplines like environmental science, heritage conservation, urban planning, and smart city development (Sharma & Patel, 2021).

The implementation of a flexible curriculum framework, which allows students to experiment with different electives, conduct research, and obtain real-world experience through internships and business partnerships, is one of the main features of NEP 2020. A variety of entry and exit alternatives are also suggested by the policy, enabling students to get degrees, certificates, or diplomas according to their degree of completion. By encouraging lifelong learning and offering early professional possibilities, this strategy may help architecture students.

The use of digital technologies like as Building Information Modelling (BIM), parametric design, and virtual reality (VR) for architectural visualisation and design simulation is encouraged by NEP 2020, which places a strong emphasis on the integration of technology in education. Students would benefit from these developments by becoming more technically proficient and thinking creatively about design. In order to improve the standard of higher education in India, the strategy also promotes more robust faculty development programs, research projects, and cooperation with foreign universities (Gupta, 2022).

The inclusion of regional and vernacular architecture in the curriculum would be another important change brought about by NEP 2020. The strategy seeks to produce architects who would be attentive to cultural differences and the environment by combining indigenous construction methods, climate-responsive designs, and sustainable building practices. The policy also emphasises industry-academia collaborations, which would promote practical training and real-world problem-solving.

All things considered, the NEP 2020 would offer an innovative and student-centered framework for architectural education, guaranteeing that graduates possess technical know-how, practical skills, and academic understanding. The strategy is expected to change the future of architectural education in India by promoting an interdisciplinary, adaptable, and research-focused approach that would make it more dynamic, inclusive, and in line with modern professional expectations.

The COA, AICTE, and UGC all have different but occasionally overlapping roles in upholding infrastructural requirements, research funding, and educational standards in India's intricate regulatory framework for architectural education. Significant changes would be made with the implementation of NEP

2020, which would place a strong emphasis on research-driven education, skill-based training, transdisciplinary learning, and technology integration. Nonetheless, there are still issues with faculty training, industry alignment, and curriculum implementation. For these reforms to be successful, business, academia, and regulatory agencies must work together to make sure that aspiring architects are prepared to take on today's urban concerns.

## 1.3 Overview of Existing UG Architecture Curriculum in India

India's undergraduate architecture program aims to give students a thorough grasp of urban planning, environmental sustainability, building technology, and design concepts. Mainly overseen by the Council of Architecture (COA), the Bachelor of Architecture (B.Arch.) program seeks to produce professionals who can use creative and responsible design to improve the built environment. The program makes sure that students acquire both technical competency and innovative problem-solving abilities by fusing theoretical knowledge with real-world applications. In order to better meet the needs of the modern business, the curriculum has changed throughout time to include new architectural trends including sustainability, digital technologies, and smart city development. Nonetheless, issues with industry alignment, pedagogical innovation, and curricular rigidity continue to exist, leading to continuous debates about possible improvements.

### 1.3.1 Structure and Duration (B.Arch. Program)

The Indian Bachelor of Architecture (B.Arch.) program is a five-year undergraduate degree with 10 semesters and an organised curriculum. In order to ensure that students complete a rigorous academic and practical training process prior to becoming licensed architects, the Council of Architecture (COA) mandates this period under the Architects Act, 1972. There are three main stages to the curriculum:

i. **Foundation Phase (Year 1-2)** – Basic design concepts, visual communication, architectural history, and building construction methods are the main topics of this level. It seeks to enhance pupils' capacity for critical and imaginative thought.

ii. **Core Professional Phase (Year 3-4)** – Advanced architectural design, structural systems, urban planning, and environmental sciences are all covered in depth in the curriculum. Real-world projects and specialised electives are presented to the students.

iii. **Internship and Thesis Phase (Year 5)** – In the final year, students must complete a thesis project and a required internship (usually lasting six months to a year) in an architectural business to show off their research and design prowess.

Students will study in a systematic manner thanks to this methodical methodology, which moves them from fundamental ideas to challenging architectural problems. To improve students' adaptability in a sector that is changing quickly, there are still debates over curriculum flexibility and the addition of interdisciplinary courses (COA, 2020).

### 1.3.2 Core Subjects and Specializations in Architecture Education

India's Bachelor of Architecture (B.Arch.) program is set up to give students a thorough grasp of urban development, environmental planning, design, and construction. While specialised electives enable students to customise their education according to their interests and future goals, the program's basic disciplines provide a solid foundation in architectural concepts. These courses are thoughtfully crafted to strike a balance between academic understanding and real-world application, guaranteeing that students acquire both technical and creative skills.

#### 1.3.2.1 Core Subjects in B.Arch. Curriculum

Design, structural engineering, material science, environmental sustainability, and professional ethics are just a few of the many topics covered in the basic courses of architectural education. Among the foundational topics are:

i. **Architectural Design** – This is the main topic covered at architecture school, with an emphasis on practical design, aesthetic sensibility, and spatial planning. Students work on projects involving conceptual thinking, drawing, 3D modelling, and urban planning in design studios.

ii. **Building Materials and Construction** – Students are introduced to both conventional and contemporary building materials in this course, including steel, concrete, glass, timber, and sustainable materials. It also discusses structural details and building construction methods.

iii. **History of Architecture** – For architects, it is essential to comprehend historical progression. Ancient, mediaeval, and modern architectural styles are examined in this course, including Mughal influences, European Renaissance, Indian temple architecture, and current trends.

iv. **Structural Systems** – Architects need to understand structural stability even if their primary role is design. Basic engineering concepts, material strength, load distribution, and seismic issues are all covered in this course.

v. **Environmental Studies and Sustainable Design** – Students study energy-efficient buildings, climate-responsive design, and renewable energy integration as a result of the increased focus on green architecture. The curriculum incorporates ideas such as water conservation, solar architecture, and passive cooling.

vi. **Urban Planning and Landscape Architecture** – Students learn about ecological landscaping, smart city planning, and urban design concepts in this course. It highlights the layout of cities and the function of public areas in contemporary urban life.

vii. **Computer-Aided Design (CAD) and Building Information Modeling (BIM)** – Students must be adept in CAD tools such as AutoCAD, Revit, SketchUp, and Rhino since architecture is becoming more and more digital. The usage of BIM in collaborative architectural planning and implementation is growing.

viii. **Professional Practice and Ethics** – Students who take this course will learn about contracts, construction legislation, legal frameworks, and ethical issues in the field of architecture. Additionally, it gets students ready for professional duties and licensure exams.

#### 1.3.2.2 Specializations in Architecture

Students can choose to specialise in a variety of architectural subfields as their studies develop, depending on their interests and professional aspirations. Among the well-known specialisations are:

i. **Sustainable Architecture** – This specialisation focusses on renewable energy integration, green building certifications (such LEED and GRIHA), and eco-friendly design concepts. Concerns about climate change have made sustainable design a crucial area of modern practice.

ii. **Urban Design and Planning** – This area of expertise includes infrastructure planning, zoning laws, and city development. It equips students for positions in urban regeneration programs, smart city projects, and government planning agencies.

iii. **Interior Architecture** – In contrast to conventional interior design, this speciality includes ergonomic planning, lighting design, and structural space optimisation. Experts in this sector work on interiors for homes, businesses, and hotels.

iv. **Heritage Conservation** – This area of expertise is on the adaptive reuse, preservation, and restoration of India's rich architectural legacy. This type of architect works in conjunction with cultural heritage organisations, archaeologists, and conservationists.

v. **Digital Architecture and Parametric Design** – This specialisation focusses on AI-driven architecture, generative design, and algorithm-based modelling using programs like Grasshopper and Rhino, in light of developments in computational design.

vi. **Landscape Architecture** – In order to construct parks, urban green zones, and sustainable outdoor spaces, this speciality integrates ecology, environmental planning, and design aesthetics (Prasad, 2017).

vii. **Construction Management** – In order to prepare for positions in real estate and infrastructure development, students who choose this specialisation study project management, cost estimating, site monitoring, and contract negotiation.

viii. **Housing and Real Estate Development** – Real estate economics, urban residential planning, and mass housing projects are the main topics of this area. It fits well with India's plans for inexpensive housing and the country's demand for urban growth (Vidyarthi, 2020).

The B.Arch. program's foundational courses and specialisations are essential to producing skilled and prepared architects for the future. Specialisations enable students to explore their individual interests and adjust to new trends in the sector, while fundamental disciplines offer a solid foundation. In order to prepare students for the difficulties of the contemporary built environment, it will be crucial to incorporate digital technologies, sustainable practices, and urban resilience techniques as architecture continues to change (Gupta, 2022).

### 1.3.3 Pedagogical Approach (Theory vs. Practical Learning)

Though the efficacy of this approach is sometimes contested, Indian architecture education pedagogy employs a balanced blend of academic and practical learning. At the heart of the curriculum is studio-based learning, where students work on design projects, create models, and participate in interactive critiques. This practical method develops critical thinking and problem-solving abilities. However, many people view theoretical courses like environmental studies, construction technology, and history as inflexible and unrelated to real-world applications.

The required internship, which exposes students to the real world by having them work in architecture businesses, is a major component of practical learning. Although the internship aids in bridging the gap between professional experience and academic understanding, questions still surround the calibre of training that companies offer. Furthermore, live projects, site visits, and guest lectures improve experiential learning; nonetheless, there is rising worry about the lack of digital integration in pedagogy (Sharma & Patel, 2021).

To combat this, educational institutions are rapidly integrating AI-driven simulations, computational design, and virtual reality (VR) into their curricula to provide students access to modern resources and techniques.

### 1.3.4 Inclusion of Emerging Trends (Sustainability, Digital Tools, Smart Cities)

Environmental concerns and the quick advancement of technology have had a big impact on architecture education in India. Emerging concepts are being included into contemporary B.Arch. curricula to stay up with market advancements:

i. **Sustainability in Architecture** – Climate-responsive design and green architecture have become crucial curriculum elements due to the growing environmental issues. It is increasingly commonplace to take courses on sustainable materials, energy-efficient construction, and solar passive architecture (Raj & Mehta, 2021).

ii. **Digital Tools and Computational Design** – AI-driven simulations, parametric design, and Building Information Modelling (BIM) are becoming more and more popular. In architectural design, these technologies improve accuracy, productivity, and artistic expression. Nevertheless, different institutions continue to employ these technologies in different ways.

iii. **Smart Cities and Urban Resilience** – Students are receiving training in transit-oriented development, smart city planning, and urban resilience techniques in light of India's fast urbanisation. Curriculum changes have been impacted by government programs including the Smart Cities Mission (AICTE, 2021).

Although these trends are being adopted more often, different institutions are implementing them at different rates. In order to meet the criteria for architectural education throughout the world, more innovative curriculum modifications are required, as many colleges continue to use traditional teaching techniques.

India's current undergraduate architecture program is organised to provide a thorough education that incorporates design, technology, sustainability, and urban planning. But issues like inflexible curricula, industry alignment, and digital integration, point to the need for change. The curriculum must continue to be flexible, multidisciplinary, and technologically sophisticated as the field of architecture changes. Future-ready architects who can handle challenging urban and environmental issues may be produced by the B.Arch. curriculum by integrating sustainability principles, cutting-edge digital technologies, and smart city concepts.

### 1.4 Challenges in the Current Architecture Curriculum

The goal of India's undergraduate architecture program is to provide students with the know-how and abilities needed to work as professional architects. However, its efficacy in educating graduates for industrial problems, technology breakthroughs, and changing architectural styles has come under scrutiny in recent years from scholars, professionals, and students. Among the main problems that require immediate addressing are the curriculum's rigidity, the lack of technology integration, the gaps in practical training, and employability challenges.

#### 1.4.1 Rigid Structure vs. Industry Needs

The strict framework of the existing B.Arch. curriculum in India is one of the main complaints, since it frequently does not meet the changing demands of the architectural profession. The needs of the industry, which are impacted by urbanisation, sustainability, and technology advancements, must be met by architectural education while simultaneously preserving a balance between theoretical knowledge and design principles.

Strict rules for architectural education are established by the Council of architectural (COA), which guarantees consistency in course credits, curriculum structure, and evaluation techniques throughout universities. Although this standardisation preserves academic excellence, it frequently stifles creativity and adaptability in instructional strategies. It might be challenging for many instructors and students to modify their courses to incorporate new developments like climate-responsive architecture, parametric design, and artificial intelligence in architecture (Mehta & Gupta, 2022).

Industry experts also stress the importance of multidisciplinary education, encompassing environmental studies, real estate development, computational design, and urban planning. There is a disconnect between academic learning and professional requirements, nevertheless, since the majority of Indian architectural institutions are reluctant to adjust to these developments (Sharma, 2021).

The B.Arch. program's five-year length is another problem. Even though architecture demands extensive training, students sometimes struggle with out-of-date material and duplicate disciplines that don't contribute to the profession of architecture today. The issue is made worse by the absence of a modular system that would allow students to tailor their courses to their interests and current business trends (Reddy & Kapoor, 2020).

### 1.4.2 Gaps in Skill Development and Practical Exposure

Since architecture is a hands-on field by nature, students must gain technical, design, and managerial abilities via real-world experience. The current curriculum, however, places a strong emphasis on theoretical knowledge, sometimes at the expense of developing practical skills.

i. **Lack of Practical Construction Exposure** – Although they study construction technologies, structural systems, and building materials, students hardly ever get the opportunity to visit construction sites. Many graduates find it difficult to manage projects, solve problems on the job site, and comprehend the difficulties that arise in real-world construction (Desai & Iyer, 2019).

ii. **Internship Challenges** – Because there aren't any formal rules or mentors, the fourth or fifth year's required internship (professional training) is frequently useless. Many companies limit students' learning experiences by assigning them simple draughting jobs rather to providing them with active training (Patel, 2021).

iii. **Lack of Soft Skills Training** – To succeed in the field, architecture students must possess strong communication, negotiating, collaboration, and leadership abilities. Students are ill-prepared for customer relations, project presentations, and business development, nevertheless, because the majority of architectural programs do not offer formal instruction in these areas (Raj & Sharma, 2020).

iv. **Limited Exposure to Real Projects** – Indian students frequently rely on fictitious academic projects that do not expose them to the actual world, in contrast to other nations where architecture students actively participate in live projects, competitions, and cooperative work with industry.

Numerous experts recommend that seminars, industry partnerships, real-world case studies, and mentoring programs be incorporated into the curriculum in order to bridge these skill gaps. In order to provide graduates more possibilities for their careers, universities should also implement certification programs in project management, company development, and entrepreneurship (Mehta & Gupta, 2022).

### 1.4.3 Integration of Technology and Modern Tools

With the advent of Building Information Modelling (BIM), parametric design, artificial intelligence, virtual reality (VR), and augmented reality (AR), the architectural profession has undergone a technological revolution in recent years. The majority of Indian architectural schools, however, have not included these contemporary resources into their curricula, which disadvantages graduates in the global labour market.

i. **Limited Use of BIM and Computational Design** – The majority of Indian students do not receive official instruction in BIM software like as Revit, ArchiCAD, or Navisworks, despite the fact that BIM is becoming an industry standard in architectural practice. Similarly, students find it challenging to compete in global businesses due to the lack of widespread instruction on computational design tools like Grasshopper and Rhino (Sharma, 2021).

ii. **Lack of Digital Fabrication Labs** – 3D printing, robotic construction, and generative design are all part of the future of architecture, yet the majority of Indian universities lack the facilities necessary to teach their students in these areas. To stay ahead of industry developments, universities need to make investments in CNC equipment, AI-driven architectural tools, and digital fabrication laboratories (Desai & Iyer, 2019).

iii. **Poor Adoption of Online Learning Platforms** – Indian colleges are lagging behind in incorporating Massive Open Online Courses (MOOCs), virtual studios, and digital learning resources into architecture education, whereas other universities have embraced online and blended learning for skill development. This restricts students' access to knowledge from practitioners in the business and worldwide experts.

Architecture schools must update their curricula, add specialised computational design courses, and work with tech firms to provide students with practical experience and industry exposure in order to close this technological divide.

### 1.4.4 Employability and Industry Readiness of Graduates

Even after completing a demanding five-year architecture program, many graduates have challenges in finding employment and competing in the job market. Low beginning pay, underemployment, and job discontent among architecture graduates are caused by a lack of industry-aligned training, hands-on experience, and soft skill development (Reddy & Kapoor, 2020).

i. **Limited Job Opportunities in Core Architecture** – Although many students hope to work for well-known architectural companies, it can be challenging for recent graduates to find core architecture positions due to a lack of opportunities, competitive hiring, and shifting economic conditions.

ii. **Low Salary Packages** – Architecture is less appealing to young professionals since graduates often earn lesser wages than those in management or IT. For greater prospects, many graduates either pursue higher education overseas or move into related areas like real estate, interior design, or urban planning (Patel, 2021).

iii. **Lack of Entrepreneurial and Business Training** – A lot of architecture students want to launch their own businesses or consultancies, but the program does not adequately teach entrepreneurship, financial planning, or company management.

iv. **Industry Expectations vs. Academic Training** – Strong technical abilities in BIM, parametric design, and AI-driven architecture—areas that are not sufficiently taught in the majority of Indian universities—are highly valued by employers. As a result, students seek further training and certifications after graduation to become industry-ready (Raj & Sharma, 2020).

Colleges should interact with industry professionals, provide internship-to-job transition programs, provide resume-building seminars, and help with placement in order to improve employability.

Numerous issues with India's present B.Arch. curriculum impede students' ability to advance professionally and prepare for the workforce. The need for immediate curricular revisions is highlighted by inflexible academic frameworks, skill development gaps, a lack of technological integration, and low employment prospects. Universities, industry partners, and the Council of Architecture (COA) must collaborate to update the curriculum, incorporate skills that are relevant to the industry, make investments in digital technologies, and encourage a more experiential learning environment. Only then can graduates of Indian architectural schools be able to compete on a worldwide scale and make significant contributions to the built environment.

### 1.5 Statement of the Problem

The field of architecture is always changing to accommodate new developments in technology, environmental issues, and social shifts. Nonetheless, India's undergraduate architecture program has remained mostly inflexible, finding it difficult to adapt to the changing demands of the sector. Although a five-year, well-structured Bachelor of Architecture (B.Arch.) curriculum is governed by the Council of Architecture (COA), there are rising questions about whether it adequately prepares students for the workforce and gives them the skills they need. Although the curriculum covers a wide range of theoretical topics, there are notable omissions in subjects that are essential to contemporary architectural practice. As a result, there is now a greater gap between the academic system and professional expectations, leaving graduates frequently ill-equipped to handle demands from the workplace.

The present curriculum's concentration on traditional design approaches and theoretical learning, with little exposure to modern trends like sustainability, digital technologies, smart cities, and multidisciplinary cooperation, is one of its main drawbacks. Though the curriculum still primarily focusses on conventional design, history, and building techniques, the architectural profession now requires a comprehensive grasp of these areas. Even while these fundamental topics are crucial, they frequently fail to take into account the sustainability-driven methods and technical advancements that have become critical to modern architectural practice. For example, architects must be skilled in energy-efficient design, climate-responsive architecture, and digital modelling approaches due to the emergence of smart cities and green architecture, yet these topics are not sufficiently covered in the current course structure.

Furthermore, there is not enough practical experience in the curriculum, which is crucial for closing the knowledge gap between theory and practice. The main opportunity for students to obtain practical experience is during the last year's internship and thesis phase. However, because they haven't had much exposure to real-world projects, industrial partnerships, and cutting-edge technology during their academic careers, many students arrive at their internships unprepared. Graduates in the architectural field today must be technically skilled, flexible, and ready to tackle challenging real-world situations. However, these abilities are frequently not instilled by the existing educational method, which results in graduates who find it difficult to fit in with professional activity.

Another urgent issue is the curriculum's poor incorporation of contemporary technology and digital tools. With the introduction of tools like Building Information Modelling (BIM), parametric design, artificial intelligence (AI) in architecture, and virtual reality (VR) for design visualisation, the field of architecture has seen a technological revolution. Architects can now design, model, and optimise structures more effectively because to these technologies, which have revolutionised architectural processes. However, the majority of architecture schools in India still place a strong emphasis on manual draughting and conventional CAD software, with little attention paid to the sophisticated digital tools that are now considered industry standards. Because of this, graduates frequently discover that they are not proficient in key software and technologies, which lowers their marketability.

These issues are made worse by the curriculum's strict structure, which makes it challenging for educational institutions to offer specialised electives and multidisciplinary courses that address new demands in the business. Urban planning, environmental science, structural engineering, and project management all intersect with the naturally multidisciplinary profession of architecture. However, pupils are not given enough freedom to investigate these areas or participate in cross-disciplinary learning within the existing curriculum. The Indian system is still quite rigid and standardised, which restricts options for skill specialisation and diversification, in contrast to international architecture programs that let students customise their study to suit particular interests.

The disparity between employability and skill development is another important problem. Employers frequently point out that recent architecture graduates lack project management skills, critical thinking ability, problem-solving talents, and client-handling expertise. Although students get instruction in technical drawing and design, they are not given much exposure to the commercial and managerial facets of the field, including customer negotiations, contracts, and cost estimation. For recent graduates, this poses a serious obstacle as they go from school to the workplace. Since many employers favour recruiting applicants who are already prepared for the workforce, recent graduates sometimes need a great deal of on-the-job training before they can make a meaningful contribution to projects.

A diverse and adaptable approach to higher education is also required, as highlighted by the National Education Policy (NEP) 2020, which encourages institutions to incorporate technology, research, and skill-based learning into their curricula. Although the policy presents a forward-thinking educational goal, architecture programs are still lagging behind in implementing it. To improve the standard of architecture education in India, a revised curriculum that reflects the goals of the NEP and the changing needs of the industry is essential.

In conclusion, there are several issues with India's current undergraduate architecture curriculum, including its rigidity, lack of real-world experience, lack of technology integration, and poor market readiness. Although the COA has set up a structured program, the dynamic nature of architectural practice necessitates a curriculum that is more flexible and focused on the future. To guarantee that architecture graduates are prepared to take on modern problems, adopt new technologies, and make significant contributions to the built environment, these gaps must be filled. The purpose of this research is to pinpoint these shortcomings and offer solutions to improve the curriculum, bringing it into line with international best practices and more responsive to industry demands.

### 1.5.1 Research Questions:

The research aims to identify the answers of the following research questions:

i. How well does the existing undergraduate architecture curriculum in India align with the current needs of the profession?

ii. To what extent does the rigidity of the curriculum hinder adaptability to emerging trends in architecture?

iii. Does the curriculum adequately equip students with practical skills required for professional architectural practice?

iv. What are the challenges faced by students and faculty in adopting new technologies in architectural education?

v. How can the National Education Policy (NEP) 2020 influence the restructuring of the B.Arch. curriculum?

vi. What reforms can be implemented to make the undergraduate architecture curriculum more interdisciplinary and industry-oriented?

### 1.5.2 Research Objectives:

The objectives of the research are:

i. To Evaluate the Alignment of the Undergraduate Architecture Curriculum with Industry Needs

ii. To Analyze the Impact of Curriculum Rigidity on Adaptability to Emerging Trends

iii. To Assess the Effectiveness of Practical Training and Skill Development

iv. To Identify Challenges in the Adoption of Modern Technologies in Architectural Education

v. To Examine the Role of National Education Policy (NEP) 2020 in Curriculum Restructuring

vi. To Recommend Reforms for Making the Architecture Curriculum More Industry-Oriented and Interdisciplinary

**1.5.3 Research Hypothesis:**

The hypotheses of the research are:

**A. Null Hypothesis:**

i. The existing undergraduate architecture curriculum in India is adequately aligned with the current needs of the profession and does not require significant modifications.

ii. The rigid structure of the architecture curriculum does not hinder its adaptability to emerging trends in architecture.

iii. The current undergraduate architecture curriculum sufficiently equips students with practical skills required for professional architectural practice.

iv. There are no significant challenges faced by students and faculty in adopting modern technologies in architectural education.

v. The National Education Policy (NEP) 2020 has no significant influence on the restructuring of the undergraduate architecture curriculum in India.

**B. Alternate Hypothesis:**

i. The existing undergraduate architecture curriculum in India is not adequately aligned with the current needs of the profession and requires modifications to meet industry demands.

ii. The rigid structure of the architecture curriculum hinders its adaptability to emerging trends in architecture, limiting students' ability to keep up with evolving industry requirements.

iii. The current undergraduate architecture curriculum does not sufficiently equip students with practical skills required for professional architectural practice, creating a gap between academia and industry expectations.

iv. There are significant challenges faced by students and faculty in adopting modern technologies in architectural education, affecting the quality of learning and professional preparedness.

v. The National Education Policy (NEP) 2020 has a significant influence on the restructuring of the undergraduate architecture curriculum in India, promoting flexibility, interdisciplinary learning, and industry alignment.

**1.6 Methodology:**

**Research Methodology**

The purpose of the study is to evaluate critically how well India's undergraduate architecture program meets the demands of the modern workforce. To guarantee a thorough grasp of the topic, an exploratory and descriptive research method is used in the research.

**1.6.1 Research Design**

To evaluate the curriculum's alignment with industry demands, the effects of curriculum rigidity, the development of practical skills, the integration of technology, and the role of NEP 2020 in curriculum restructuring, the study will employ an exploratory and descriptive research approach.

i. **Exploratory Research:** Conducted to comprehend current curricular frameworks, issues, and improvements through expert views and literature research.

ii. **Descriptive Research:** Surveys are used to gather empirical data in order to investigate existing educational methods and how they affect industry preparedness and employability.

### 1.6.2 Data Collection Methods

A combination of **primary and secondary data collection methods** will be employed.

#### A. Primary Data Collection

**Surveys and Questionnaires -**Structured surveys will be designed for:

**i.** **Architecture students** (final-year undergraduates and recent graduates) to gather insights on curriculum effectiveness, practical exposure, and industry readiness.

**ii.** **Faculty members** from leading architecture colleges to assess challenges in curriculum implementation and technological integration.

**iii.** **Industry professionals** (architects, urban planners, and construction firms) to evaluate graduates' preparedness for professional roles.

#### B. Secondary Data Collection

**i.** **Analysis of curriculum documents** from the **Council of Architecture (COA), AICTE, and UGC** to understand mandated academic structures.

**ii.** **Review of previous research studies, academic papers, and government policy reports** (such as **NEP 2020**) to contextualize the findings within the broader educational landscape.

iii. **Comparative Analysis** of Curricula of Institutions imparting B.Arch. Education in India w.r.t. Council of Architecture Norms

iv. **Comparative Analysis** of Architecture Curricula at Five Prominent Universities Worldwide: Frameworks, Approaches, and Innovations

### 1.6.3 Sampling Technique and Sample Size

A **purposive sampling technique** will be used to select participants who are directly involved in architecture education and practice.

i. **Students:** 500 (from multiple institutions across India)

ii. **Faculty Members:** 250 (from top architecture colleges)

iii. **Industry Experts & Practicing Architects:** 160 (working in firms of varying scales)

Total Sample Size: **910 respondents**

### 1.6.4 Data Analysis Techniques

The research will use both **quantitative and qualitative** analysis methods:

#### A. Quantitative Analysis

i. **Descriptive statistics** (mean, standard deviation, percentage analysis) to interpret survey responses.

ii. **Inferential statistics** (chi-square test, ANOVA) to test hypotheses related to curriculum effectiveness, technology adoption, and employability.

**B. Qualitative Analysis**

i. **Thematic analysis** of expert views and FGDs to identify recurring themes related to curriculum inadequacy, adaptability, and industry expectations.

ii. **Content analysis** of policy documents and educational frameworks to determine alignment with industry needs.

### 1.6.5 Expected Outcome

i. Identification of gaps between **curriculum structure** and **industry expectations**.

ii. Assessment of **rigidity in the curriculum** and its impact on adaptability.

iii. Evaluation of **skill development and technological integration** in architectural education.

iv. Recommendations for curriculum **reforms and policy implementations** to improve industry relevance.

### 1.6.6 Limitations of the Study:

**i.** Geographical Scope
**ii.** Respondent Bias
**iii.** Limited Industry Representation
**iv.** No Postgraduate Curriculum Involvement
**v.** Major dependence on Primary Data
**vi.** Differences in Technology adoption across institutions

This technique guarantees a methodical, data-driven approach to assessing and enhancing India's undergraduate architecture program.

### 1.7 Conclusion:

This study aims to explore the evolving dynamics and inherent challenges within architectural education, examining their impact on both the academic and practical aspects of the architectural field today. It reflects on the historical journey of architecture, transitioning from a craft to a respected profession, and highlights the critical roles played by various statutory and regulatory bodies in India. Institutions are essential in shaping the educational landscape and professional standards of architecture. Empowering architects is vital for the sustainability and success of their careers. This empowerment can be achieved through a solid foundation in core knowledge and relevant employability skills. The urgency of this issue underscores the need to clearly define what constitutes core knowledge and essential employability skills in the context of the twenty-first century. Implementing this educational strategy is expected to cultivate professionally competent individuals and passionate creators and innovators, ultimately shaping a future where architects excel in their field and lead in driving change and progress. To advance this goal, it is identified a significant gap towards the necessity for further investigation to outline the parameters of core knowledge and employability skills. Architecture curriculum plays a vital role in preparing the future architect professional. Therefore, research is crucial to establish detailed indicators that can serve as benchmarks for educational curricula and professional development. This will ensure that empowerment through architectural education is not just an aspirational goal but a tangible reality.

# CHAPTER-2

# REVIEW OF LITERATURE

## 2.1 Introduction:

A crucial part of this study is the literature evaluation, which offers a thorough grasp of the current ideas, research, and debates pertaining to architectural education in India. This chapter attempts to examine how architectural curriculum have changed over time, as well as worldwide educational trends, pedagogical approaches, and their applicability to the demands of the modern industry. The history of architectural education in India is first traced, along with the impact of colonial policies, post-independence changes, and the function of regulating organisations like the Council of architectural (COA). To evaluate how Indian schools conform to international best practices, a comparative study of architectural curriculum from across the world is provided.

Additionally, the fundamental subjects, instructional strategies, and pedagogical approaches—such as studio-based learning, technology integration, and multidisciplinary collaborations—of India's present architectural curriculum are examined. In order to discover discrepancies between academic training and professional expectations, the research also looks at how relevant the current curriculum is to industry demands. There is also discussion of how architecture education is affected by new technologies like artificial intelligence (AI), building information modelling (BIM), sustainable architecture, and smart city planning.

In order to identify problems and places in need of improvement, viewpoints from instructors and students are also considered. It is examined how policy frameworks, such as the National Education Policy (NEP) and COA standards, influence curricular improvements and updates. The chapter ends with a summary of the main conclusions drawn from the literature, pointing out any gaps and emphasising areas that require more investigation. The goal of this evaluation is to lay the groundwork for evaluating the condition of architecture education in India today and its applicability in the quickly changing professional environment.

## 2.2 Evolution of Architecture Education in India

Due to historical, cultural, and technical advancements, architecture education in India has experienced substantial changes throughout time. Western architectural concepts were introduced by British-established institutions during the colonial era, which laid the groundwork for the nation's official architectural education. India saw a transition to indigenous architectural forms after gaining independence, fusing old expertise with contemporary methods. A major turning point was reached in 1972 with the founding of the Council of Architecture (COA), which standardised architectural education and guaranteed quality control across institutions. The curriculum has changed over time to include new developments in digital design tools, sustainability, and building technology. However, the need to evaluate whether the existing architectural curriculum is effectively educating students for modern issues is developing as a result of rapid urbanisation and shifting industrial needs. This section examines the evolution of architectural education in India across time, emphasising significant breakthroughs and changes that have influenced the field's current configuration.

In contemporary educational settings, Pătroc (2023) investigates the connection between architectural design and pedagogical concepts. With a focus on student-centered learning, collaborative spaces, adaptability, and sustainability, the research explores the development of educational architecture. It draws attention to significant historical changes, the effects of technology, and the incorporation of eco-friendly practices, collaborative hubs, and personalised learning zones. Case studies shed light on innovative trends and successful implementations. The study highlights the ways in which architecture and pedagogy influence educational experiences, with important ramifications for future learning environments.

The historical development of architectural education is examined by Pasha et al. (2020), who follow its progression from unstructured learning to a model based on a standardised curriculum. The study employs a qualitative method with triangulation, examining historical data in addition to focus groups and interviews. Important training methods are examined, such as official curriculum, apprenticeships, and the master-pupil system, emphasising the timeless value of foundational abilities like sculpting and drawing. The study emphasises how multidisciplinary knowledge and cultural integration influence architecture education. It comes to the conclusion that changing teaching strategies, curricular content, and the purposeful inclusion of arts and cultural studies have all had an impact on the discipline's progress.

Szczepański and Nyka (2023) examine how educational spaces have changed throughout time, moving from traditional plan-based designs to virtual learning environments, sustainable campuses, and regenerative architecture. It looks at how flexible, student-centered designs that put an emphasis on sustainability, adaptability, and teamwork have replaced strict patterns in architectural planning. The study draws attention to the growing popularity of virtual classrooms, which use digital technology to improve instruction outside of traditional classroom settings. It also highlights the rising significance of green campuses, which integrate biophilic design ideas, energy-efficient technologies, and eco-friendly materials. In order to create dynamic and sustainable learning settings in the future, the research emphasises how educational spaces must change in response to environmental concerns and technology improvements.

In her analysis of current trends and advancements in architectural education, Martyshova (2023) places a strong emphasis on the incorporation of cutting-edge technology, multidisciplinary education, and sustainability. The research investigates how architecture education is changing as a result of digital technologies like virtual simulations and Building Information Modelling (BIM). It draws attention to the move towards competency-based education, which fosters critical thinking, practical skills, and group learning. The expanding impact of international educational standards and the necessity of curriculum design flexibility are also covered in the study. It also emphasises how ecological consciousness, green building, and sustainability have shaped contemporary architectural education. According to the study's findings, curriculum development must be ongoing in order to match architectural education with social demands and industry developments.

The incorporation of sustainability in architecture education is examined by Schiano-Phan and Soares Gonçalves (2022), who stress the need of ecologically conscious design techniques. Through theoretical frameworks, real-world applications, and multidisciplinary methods, the research investigates how sustainability is integrated into curriculum. It emphasises important subjects including circular economy concepts, climate-responsive design, sustainable materials, and energy efficiency. Pedagogical techniques including project-based learning, real-world case studies, and digital simulation tools are also included in the study. The authors emphasise how crucial it is to include sustainability into architecture education in order to equip aspiring architects to tackle global environmental issues. The study comes to the conclusion that in order to promote sustainability-driven innovation in architecture education, a comprehensive, practical strategy is necessary.

Felix (2024) adapts the critical and transformational pedagogies of Freire, De Sousa Santos, and Hooks to investigate the creation of a parallel-engaged pedagogy of caring in architecture education at a South African institution. This pedagogy, which was developed through participatory action research (2019–2023), including the COVID-19 pandemic years, was intended to confront postcolonial and post-Apartheid conditions. Through active participation and supportive learning settings, it encouraged instructors and students to engage in aware, critical, and reflective design practices. Focus groups, reflective essays, and student polls all emphasised how it supports social justice and transformational equality in design education while validating a range of lived experiences. The study emphasises how care-driven teaching influences the development of socially conscious architectural practices.

In their study of the applicability of competency-based education (CBE) in Indian architecture education, Kohale, Kini, and Mohammed (2024) prioritise skill-oriented learning over conventional knowledge-based methods. In order to improve students' readiness for professional difficulties, the study emphasises the necessity of hands-on training, interdisciplinary learning, and industry alignment. It looks at how CBE helps students develop their critical thinking, problem-solving, and adaptability skills so they may meet changing industry expectations. The study promotes a change from rote learning to experiencing, project-based learning by talking about curriculum restructuring, assessment models, and experiential learning techniques. According to the study's findings, including CBE into architecture education can enhance graduates' employability, creativity, and ability to respond to today's architectural issues in India.

Many Iranian graduates find it difficult to use their academic knowledge in the workplace, highlighting a substantial disconnect between architectural education and practical expectations (Hejazi, 2020). The report identifies the shortcomings in architecture education and suggests ways to close the gap. Questionnaires with observations and recommendations were sent to instructors, professional architects, and final-year students. The creation of non-governmental organisations, 1) participatory education, 2) connecting architecture offices and universities, and 3) updating the undergraduate curriculum are important remedies. These tactics seek to enhance graduates' preparedness for professional practice and better match architectural education with industry demands.

The current applicability of traditional building knowledge in Indian architecture education is examined by Piplani and Brar (2020). The study highlights how crucial it is to incorporate climate-responsive design, local materials, and indigenous building techniques into contemporary architectural courses. It draws attention to the ways in which ancient knowledge may help with modern issues including resource efficiency, sustainability, and cultural preservation. According to the authors, integrating traditional methods into architecture education encourages ecologically conscious design and a greater comprehension of regional settings. According to the research, architecture education in India may be enhanced and more sustainable, culturally appropriate designs can be produced by resurrecting and fusing old knowledge with contemporary methods.

The necessity for curriculum enhancements and innovative teaching strategies in architecture education is examined by Milovanović et al. (2020), especially in light of the COVID-19 pandemic's difficulties. The research, which focusses on the University of Belgrade's "COVID-19 Challenges: Architecture of Pandemic" workshop from April 2020, demonstrates the possibility of online workshops as useful educational resources for students. Through emergency design solutions, the workshop sought to address problems including social separation, restricted mobility, and changed public space utilisation. Performance, innovation, change, and inclusiveness are the four main design problems identified in the article. It also explores the learning possibilities and constraints of tackling these difficulties in architectural and urban design education during the pandemic.

### 2.3 Global Trends in Architecture Education

In response to societal changes and worldwide trends, the discipline of architectural education is always developing to meet the demands of the built environment and the profession. Integrating sustainability, digital technology, interdisciplinary learning, and international cooperation into architectural curricula has become increasingly important in recent years. Architecture schools throughout the world are reconsidering conventional teaching strategies and using cutting-edge ways as architects deal with intricate, global issues including urbanisation, climate change, and technology breakthroughs. By encouraging critical thinking, innovation, and flexibility, these trends seek to better prepare pupils for a world that is changing quickly. The new worldwide trends in architectural education will be discussed in this part along with how they will affect the direction of the field going forward.

In order to lessen the built environment's reliance on energy, Boarin et al. (2020) investigate how architecture programs in North America, Europe, and Oceania integrate sustainability teaching into their curricula. The study examines undergraduate and graduate programs to determine how student designs are affected by curriculum with a sustainability focus. Although the majority of students believe that sustainability is essential to their education, the breadth and results of their designs differed depending on the program's objectives and design focus, according to the opinions of more than 300 students. The study sheds light on how different institutions incorporate sustainability issues into their architecture curricula, providing guidance for curriculum designers and bringing academic methods into line with worldwide sustainability trends in architectural education.

With an emphasis on its role between architecture and urban planning, Belof and Kryczka (2024) investigate the development and scholarly instruction of urban design in Poland. Urban design, which first appeared in the 20th century, has been the focus of continuous discussion over its application, scientific basis, and teaching methodology. In order to determine important areas and definitions in urban planning, the research examines current scientific ideas. According to the findings, urban design components are not taught as a single subject in Poland but rather are dispersed among several master's degree programs, which might be a factor in the growing spatial disarray. According to the research, teaching urban design in a more integrated way may enhance its ability to handle urban issues.

In order to examine the prevalent issues and developments in architectural education (AE) in the early 21st century, Hammadamin and Nordin (2024) carried out a thorough literature review. The study found several important themes, including history, sustainability, technological innovation, and teaching methods. The most popular approaches in AE, according to an analysis of 96 papers published between 2000 and 2023, are online learning, blended learning, e-learning, and experiential learning. The evaluation emphasises the necessity of more emphasis on practice-based learning and greater research collaboration across architectural schools. With the ultimate goal of enhancing the learning environment at architectural schools, the authors emphasise the significance of combining art, social context, and the actual built environment to increase AE.

The Virtual Design Studio (VDS) was investigated by Iranmanesh and Onur (2021) as a teaching tool in architectural pedagogy, particularly during the COVID-19 quarantine. The study evaluated how students saw their VDS experience, how well it met learning objectives, and how final design projects were evaluated. The study, which involved 360 students from eight design studios, found that students' skill with computer-aided design (CAD) software and their capacity for independent research had improved. The findings indicated that while VDS reduced informal peer learning, it was more successful for third- and fourth-year students. In order to improve the social experience in VDS, the authors recommend more study.

A bibliometric survey of the developing research on vernacular architecture during the previous 70 years was carried out by Benkari et al. (2021). The study examined topics, the nations with the highest publication counts, and the scientific domains covered in more than 700 published papers from Web of Science and SCOPUS. The findings demonstrate how vernacular architecture study has been expanding, particularly since the 2000s, when it shifted from the humanities to the hard sciences. Furthermore, the use of transdisciplinary and interdisciplinary methodologies in research has grown. A notable change in the development of vernacular architecture writing from North America to Asia was also noted by the research.

In addition to technical developments, Alobaidi et al. (2023) examine the growing difficulties facing architecture in light of social, economic, and environmental concerns. In order to solve these issues and advance equity, justice, creativity, and innovation within sustainable development, the research places a strong emphasis on architectural empowerment. The researchers created a thorough framework for empowerment architecture by reviewing earlier research and looking at both the design process and the final result. The study came to the conclusion that user participation in the design process is essential for producing architecture that empowers people after examining three design trends and modern applied models. According to the study, future architectural practices should reevaluate the necessity for more emphasis on empowerment during the design process rather than merely the finished result.

Brogden (2020) talks on how architecture education has changed from seeing design as a final result to seeing it as a process, and from stressing site-specific design to taking systems-based methods into account, especially when it comes to humanitarian and catastrophe resilience design. In order to prepare students to handle global issues like natural disasters, climate change, and humanitarian crises, the dissertation critically analyses how architecture education might include disaster response and recovery concepts into curriculum. The project intends to transform architectural education by emphasising robust and adaptive design approaches, producing future architects who may make significant contributions to disaster-prone areas and international sustainability initiatives.

The integration of technology courses with design studio instruction in architecture school in Australia and Iran is compared by Saghafi and Crowther (2021). The study draws attention to the ways that technical knowledge is incorporated into design education differently in the two nations' architectural curriculum. The authors evaluate how well technical subjects are included into architectural design studios, which foster the development of practical and creative abilities, by looking at the curricular structures and pedagogical techniques. In the end, the study provides insights into how architectural education may change to better prepare students for the increasingly complex and technologically driven needs of the profession by highlighting important potential and problems in integrating technical learning with design practice.

Gil-Mastalerczyk (2022) examines current programs and studies at Poland's Kielce University of Technology that concentrate on the relationship between architecture and religion in the framework of modern architectural education. The study highlights how religion influences architectural style, especially as it relates to contemporary Roman Catholic churches close to the university. The projects were created to provide architecture students the information, abilities, and understanding they need to understand the social demands of religious groups as well as the intangible ideals of church architecture. A mixed-method approach was used in the study, which involved 150 students, to investigate how architecture students may better comprehend and address the social and spiritual relevance of holy places. The projects' results show that the students learnt a lot about church architecture and are ready to take on the unique challenges of creating places of worship.

Voinea & Patachi (2021) examine paradigm developments in architectural education in their article, emphasising the effects of online learning, especially in times of isolation like the COVID-19 pandemic. The study evaluates how the shift to online platforms in architecture education has impacted creativity and communication. The authors look at the benefits and difficulties of teaching architecture remotely, emphasising how the distance impacted student participation, teamwork, and the growth of creative abilities. The study offers insights into how digital environments might transform architectural pedagogy and what tactics might be used to improve the learning experience in upcoming online or hybrid educational models by examining comments from educators and students.

The incorporation of traditional and local building knowledge into Indian architectural curriculum is examined in Dwivedi's (2022) study on pedagogical approaches to vernacular architecture education in India. The significance of vernacular architecture in conserving cultural heritage and advancing sustainability in the built environment is emphasised in the article. In support of a curriculum that strikes a balance between regional and indigenous knowledge and global architectural trends, it examines many teaching approaches and tactics for introducing vernacular ideas into contemporary architectural education. Dwivedi looks at ways to teach students to value and modify vernacular design concepts to meet modern demands, guaranteeing that traditional architecture will continue to be useful and relevant amid India's changing urbanisation and environmental issues. The research offers a framework for successfully integrating these ideas into architectural curricula with the goal of producing architects who are sensitive to local issues and internationally conscious.

Jurva et al. (2020) examine the expanding trend of digitalisation in cities and countries, paying special attention to how 5G wireless networks and Internet of Things (IoT) technologies are changing educational settings, notably universities. The article talks about the growing international initiatives to create smart campuses that leverage 5G and IoT networks to improve services, increase campus functionality, and solve the problems brought on by the quick transition to digital education. In order to handle the increasing complexity of digital campuses, the research emphasises the necessity of strong ICT and IoT infrastructures, with a focus on distributed computing and data analytics. In order to manage the growing network infrastructure and devices—a task that is normally outside the purview of mobile network operators and university IT administrations—the authors suggest a technical architecture for a smart campus that incorporates a new operational model based on the micro operator concept. In order to provide a practical illustration of the ideas covered in the paper, the article also includes a case study of the University of Oulu campus, where a 5G test network has been implemented as part of their smart technology effort.

With an emphasis on the idea of the educational campus paradigm in the twenty-first century, the writers of Campos & Luceño (2020) explore the changing interaction between architecture, education, and urban surroundings. The study looks at how campuses, in particular, may be made as efficient as possible to create learning communities that can change to meet the demands of contemporary education. The authors contend that learning experiences and results are greatly influenced by the physical layout of educational institutions, emphasising the value of architecture in fostering social interaction, creativity, and teamwork. The function of the city as an extension of the campus is also covered in the paper, with a focus on how urban areas may support educational endeavours and produce more dynamic, integrated learning environments. In doing so, the paper presents a vision for educational architecture in the twenty-first century, one in which campuses are essential components of larger urban ecosystems intended to improve the educational experience rather than merely isolated locations.

In the domains of architecture and urbanism, Salama (2021) introduces the idea of transformational pedagogy, making the case for a change in teaching strategies that correspond with current issues in the built environment. In order to promote more inclusive, ecological, and socially conscious design processes, the book investigates how architectural and urban education could transcend conventional approaches. Salama supports a teaching approach that encourages creativity, critical thinking, and a greater comprehension of the social, cultural, and environmental aspects that influence architecture and urbanisation. Students are urged to interact with real-world problems through transformational pedagogy, which highlights the need of interdisciplinary cooperation and a greater emphasis on design participative processes. The significance of incorporating global viewpoints and many cultural narratives into architectural and urban education is also covered in the book, with an emphasis on developing professionals who are not just technically proficient but also socially and morally conscious.

Karim and Gharipour (2024) provide a thorough examination of the development, difficulties, and contributions of architectural education in the Middle East and North Africa (MENA) to the field's worldwide architectural education. The book explores the evolution of architectural education in this area, which has been influenced by distinct historical, cultural, and sociopolitical circumstances. It explores how MENA nations have responded to international architectural trends while preserving their own identities and values, highlighting the rise of architectural schools, curricular frameworks, and pedagogical techniques unique to these nations.

In addition to discussing how post-colonial countries modified their curricula to address modern issues like social justice, environmental sustainability, and growing urbanisation, the study also examines the colonial impacts on architectural education. The volume also examines how architecture shapes national identity and how it relates to regional development and modernisation goals.

The book provides insights into how architectural training has changed and continues to adapt to both local and global influences by showcasing the wide range of architectural educational systems found throughout the MENA region via a number of case studies. This collection makes a substantial addition to our knowledge of how education shapes architects who can tackle difficult urban and architectural problems in one of the most vibrant and historically significant areas on earth.

## 2.4 Teaching Methodologies and Learning Outcomes in Architecture Education

Future architects' competences, talents, and creative capacities are greatly influenced by the teaching approaches used in architectural school. Teachers have constantly modified their teaching strategies to satisfy the demands of a world that is changing quickly due to the dynamic character of the architectural profession. These approaches cover a variety of conventional and modern techniques, including design studios, seminars, workshops, group projects, and digital tools, all of which are meant to promote critical thinking, creativity, and problem-solving skills. These approaches are intrinsically linked to learning outcomes in architecture education as they assess students' comprehension of both theoretical concepts and real-world design and construction applications. The expectations and assessment of learning objectives have been further impacted by the incorporation of sustainability, technology, and social relevance into architectural curriculum. Effective teaching strategies are therefore crucial to guaranteeing that students have the information, abilities, and moral viewpoints required to tackle difficult global issues and make significant contributions to the built environment.

Megahed and Hassan (2022) propose a redesigned approach to teaching and learning by examining the incorporation of blended learning methodologies in architecture education after COVID-19. They urge for a hybrid paradigm that combines online and in-person instruction, highlighting the difficulties encountered during the epidemic, especially the transition to distant learning. Flexibility, increased accessibility, and the use of digital tools to boost engagement and memory are all features of this blended learning approach. To ensure that architecture students are ready for the challenges of the future, the authors emphasise the value of encouraging innovation, teamwork, and real-world experience while adjusting to the changing educational landscape.

In their systematic evaluation, Hamilton et al. (2021) assessed the efficacy of immersive virtual reality (I-VR) in education by contrasting it with more conventional techniques such as slideshows and desktop PCs. The analysis looked at 29 research and discovered that while some showed no difference or even negative effects, the majority demonstrated a considerable advantage of I-VR in learning outcomes. Notwithstanding these conclusions, the research mostly concentrated on scientific topics, lacked long-term treatments, and failed to evaluate information retention. The review also pointed out flaws in the way learning results were evaluated, indicating that a more thorough method is required to completely comprehend the educational potential of I-VR.

The adaptation of Indian undergraduate architecture programs to the epidemic is examined by Varma & Jafri (2021), who concentrate on different instructional strategies, communication, tasks, and assessments. To learn more about the technologies utilised, the transition process, and the efficacy of online instruction, the study used an online poll of instructors. A third of respondents expressed pleasure with online instruction, but poor satisfaction with design studio instruction, despite the fact that the majority of institutions handled the transition to online learning without any problems. The study highlights the necessity of further integration of digital technologies, student input, and professional training. It proposes creating a thorough framework for architectural education in India and promotes the possibilities of blended learning in the future.

In response to the change brought about by the COVID-19 epidemic, Ibrahim et al. (2021) assess the online instruction of architectural design and foundational design courses in the College of Architecture, Jordan University of Science and Technology (JUST). The study's main objective is to evaluate the efficacy of online instruction in architectural design while taking learning objectives, student involvement, and course material delivery into account. Through faculty and student questionnaires and interviews, the writers draw attention to issues including the difficulties of teaching design studios online and the lack of engagement. Notwithstanding these difficulties, the study identifies several advantages, such as adaptability and accessibility. The study highlights the necessity of better online resources and techniques to improve architectural design instruction in a virtual setting.

The application of cutting-edge technology, namely computational geographic information systems (GIS), in science and engineering education is examined by Pérez-delHoyo et al. (2020). By integrating with the digital tools often utilised in a variety of professions, the research investigates how these technologies—which handle vast amounts of data—can improve the teaching-learning process. The study examines student experiences and learning outcomes related to GIS, highlighting benefits like enhanced information availability and increased participation as well as disadvantages like possible complexity. In order to enhance the educational experience by using these technologies for improved integration and user engagement, the study ends with efforts that are suggested to supplement instructional activities.

The use of contemporary teaching methods at Wasit University is examined by Alaidi, A., Yahya, O., & Alrikabi, H. (2020), with an emphasis on how creative methods are being incorporated into the institution's instructional strategies. The study emphasises the advantages and difficulties of implementing these strategies, which are meant to improve learning outcomes and adjust to changing educational demands. The researchers evaluate how well the contemporary technologies utilised in different academic programs work and offer ways to better incorporate these methods into university courses. Their results highlight how crucial it is to update teaching strategies on a regular basis in order to stay up with emerging technologies and students' evolving requirements.

The application of augmented reality (AR) in design education, specifically in landscape architecture courses, is examined by Kerr, J., & Lawson, G. (2020). The study explores how augmented reality (AR) technology might improve students' educational experiences by offering immersive and interactive means of visualising and interacting with design concepts. Students may experiment with their ideas in dynamic situations, interact with designs in real-world settings, and get a deeper understanding of intricate spatial relationships by using augmented reality. In landscape architecture education, the study highlights AR's ability to close the knowledge gap between theory and practice, thereby enhancing students' comprehension and inventiveness in design practice.

In order to promote STEM (Science, Technology, Engineering, and Mathematics) learning, Mystakidis, S., Christopoulos, A., & Pellas, N. (2022) carried out a systematic mapping evaluation of augmented reality (AR) applications in higher education. The study examines how well a variety of augmented reality applications might improve student engagement, comprehension, and involvement with STEM courses. The paper emphasises how augmented reality (AR) has the ability to provide immersive and interactive learning experiences that can increase the accessibility and interest of difficult STEM ideas. Additionally, it points out the difficulties and restrictions associated with using AR in higher education and makes recommendations for future research and development to enhance its incorporation into STEM programs.

In order to encourage sustainable and self-directed learning for technical courses, Shareef & Farivarsadri (2020) suggest a teaching/learning framework that combines constructivist pedagogy, design principles, and problem-based learning (PBL). The research looked at literature to determine theme codes and linkages using qualitative content analysis. According to a case study done in a building construction technology course at Tishk International University in Iraq, students' learning and engagement were improved by finding solutions to vague challenges. Through a game-based approach, the instructor's role evolved to include learning facilitation, curiosity, and problem-solving. The framework offers a way to teach technical courses that integrates technical and design knowledge, which will help students succeed academically and professionally.

The transition to a new hybrid architecture studio education model following COVID-19 is examined by Zairul, M., Azli, M., & Azlan, A. (2023), who strike a balance between the necessity for innovation and conventional methods. The project looks at how architectural education might be supported in a post-pandemic setting using blended learning, which combines online and in-person teaching approaches. The constraints of conventional studio-based learning and the potential for technological improvements to improve teaching and learning experiences are taken into consideration as the writers analyse the prospects and problems of this hybrid method. The study emphasises how crucial it is to preserve the integrity of architectural pedagogy while modifying instructional methodologies to meet changing demands.

### 2.5 Relevance of Current Curriculum to Industry Needs in Architecture Education:

A key component of making sure that graduates have the abilities and information required to thrive in the quickly changing built environment is making sure that present architecture courses are relevant to industry demands. Evaluating whether training programs are in line with industry expectations is crucial as architecture practices deal with more complicated issues including sustainability, digital technology, and multidisciplinary cooperation.

Architecture education must constantly change to reflect the newest developments due to the dynamic nature of design tools, building technology, and professional practices. In addition to preparing students for professional practice, this alignment strengthens the bond between academic instruction and practical applications, guaranteeing that aspiring architects will be equipped to handle the ever-changing needs of the field.

Khodeir and Nessim (2020) investigate the discrepancy between the skills taught in Egyptian architectural schools and those needed by the labour market. The research contrasts the abilities that architecture students acquire during their academic training with the changing needs of the industry. It points out weaknesses in the existing curriculum that might make students less employable, especially in areas like design thinking, technical competency, and the use of contemporary technology. The authors suggest that curriculum change is necessary to bring academic programs into line with industry standards and improve graduates' preparedness for the workforce.

A thorough analysis of the incorporation of environmental sustainability into architecture education programs was carried out by Boarin and Martinez-Molina (2022). In order to find practical methods for integrating sustainability concerns into architectural curriculum, they looked at different teaching and implementation methodologies from higher education institutions. In order to educate students for the difficulties of sustainable design and practice, their findings emphasise the need of integrating sustainability principles throughout architectural education.

In order to address the difficulties of the twenty-first century, Meyer and Norman (2020) investigate the necessity of changing design education. The article explores how social demands, globalisation, and the quickening pace of technology development need a change in educational strategies. With a focus on the integration of design thinking, digital technologies, and sustainability, the authors promote a more collaborative and multidisciplinary approach in design education. They also suggest alterations to curriculum frameworks and instructional strategies, arguing that design education should emphasise the development of critical thinking, ethical considerations, and the capacity to collaborate with diverse groups to address challenging global issues in addition to creativity and technical proficiency.

In their exploration of the information technology (IT) asymmetry and gaps between industry and higher education institutions, Sahin and Celikkan (2020) draw attention to the difficulties both sectors confront in integrating new technologies into their curriculum. The study highlights how the industry's rapid technological change frequently surpasses higher education institutions' capacity to modify their curricula. The abilities that students are taught and the skills that employers want may not align as a result of this discrepancy. The authors suggest ways to close these gaps, such as modernising curricula, encouraging closer industry-academia cooperation, and integrating cutting-edge technology into the curriculum to improve employability and industry preparedness.

Fernandez et al. (2020) look at how much fresh Spanish graduate architects know about Building Performance Simulation Tools (BPSTs). When it comes to measuring building performance in terms of design, construction, and operation, BPSTs are essential. To find knowledge gaps on BPSTs, the study polls 171 recent graduates. The results point to serious shortcomings in university curriculum, especially the absence of instruction in energy modelling, which is crucial for the design phase. In order to better prepare students for the needs of the business, the authors recommend that Spanish institutions change their curricula to include BPSTs and offer cutting-edge pedagogy-based teaching materials that bridge the gap between academic training and practical practice.

With an emphasis on the educational perspectives of Generations X, Y, and Z, Bayhan & Karaca (2020) investigate how technology developments affect the architectural and engineering curriculum. After reviewing the literature on how technology has changed schooling and the traits of these generations, 160 respondents were surveyed to compare their opinions. With Generation Y reporting the least satisfaction with IT-related courses, the findings show that education connected to IT is insufficient for digital native generations. According to the survey, attitudes vary significantly between generations, with Generation Y being most impacted by environmental trends. In order to better serve the requirements of these generations, the findings are intended to direct future curriculum development.

In their discussion of the integration of DevOps instruction in academia and industry, Bobrov et al. (2020) consider the benefits and problems that this paradigm offers. In order to educate students for the changing needs of the software business, they stress the significance of integrating DevOps methods into academic courses. The main distinctions between academic and industrial contexts in terms of teaching approaches and knowledge transmission are examined in this research. By promoting more practical learning, teamwork, and conformity with industry standards, the authors offer a vision for improving the educational approach to DevOps. The study emphasises the necessity of a methodical strategy to close the knowledge gap between DevOps training and industrial application.

The idea of Education 4.0 and its consequences for instruction and learning in the digital era are examined by Bonfield et al. (2020). The study looks at how pedagogical innovations and the incorporation of digital technology might influence higher education, emphasising both the potential and problems that come with these developments. The writers talk on how learning settings are becoming more flexible, student-centered, and technologically advanced, all of which promote individualised learning experiences. They stress the necessity for higher education institutions to adjust to the digital era and critically evaluate whether the present developments in education constitute a revolution or an evolution of conventional teaching methods. In light of the quickly evolving educational landscape, the study urges a reconsideration of teaching strategies and learning objectives.

In their analysis of the connection between Industry 4.0 and Education 4.0, Das, Kleinke, and Pistrui (2020) suggest that engineering education has to change to satisfy the needs of the industry's digital revolution. The article explores how the industrial environment is changing due to the rapid breakthroughs in technology, including automation, artificial intelligence, and the Internet of Things, necessitating a new approach to education. To better prepare students for the difficulties of Industry 4.0, the authors contend that conventional educational paradigms need to be rethought to incorporate digital technologies, multidisciplinary methods, and experiential learning opportunities. They stress how crucial it is to match educational methods with the changing knowledge and abilities needed by the contemporary workforce.

The effects of the Fourth Industrial Revolution (Industry 4.0) on occupational education and skills are examined by Spöttl and Windelband (2021). They examine how the skills needed in the workforce are changing as a result of technology developments like automation, artificial intelligence, and digitisation. According to the report, in order to keep up with these developments, traditional forms of vocational training must include new technology and promote abilities like flexibility, problem-solving, and digital literacy. To guarantee that workers are suitably equipped for the possibilities and difficulties brought about by Industry 4.0, the authors emphasise the necessity of a greater alignment between vocational education and the needs of contemporary industries. They contend that upskilling and ongoing education are crucial for preserving employability in the changing labour market.

### 2.6 Impact of Technological Advancements on Architecture Education

The field of architectural education has been profoundly altered by technological breakthroughs. The teaching and understanding of architectural principles has been completely transformed by the incorporation of state-of-the-art tools and digital technologies, including Building Information Modelling (BIM), virtual reality (VR), augmented reality (AR), and computational design software. In addition to improving students' creative skills, these tools make learning more engaging and dynamic. Academic institutions must modify their curricula to take advantage of these technological breakthroughs since the discipline of architecture depends more and more on them. By developing skills that are essential for students to succeed in a field that is changing quickly, this change in teaching approaches is influencing the direction of architectural education.

The goal of Maharika et al. (2020) is to solve the difficulties in implementing a BIM culture in academic institutions by creating a BIM integration model specifically for architecture education. There is little study on the integration of BIM in higher education, especially in architecture institutions, despite the fact that the majority of current BIM adoption models concentrate on the construction sector. By defining important factors that are appropriate for the educational setting, this study aims to close that gap. The authors offer a thorough approach with six primary integration criteria—infrastructure, curriculum integration, human resources, knowledge organisation, change management, and institution vision and priorities—after conducting thoughtful conversations and a semi-systematic literature research. The model offers a foundational framework that can help with the creation of readiness assessments, roadmaps, and the alignment of education with the larger architecture, engineering, construction, operation, and management industries, even though it mainly pertains to architectural schools that are just beginning to adopt BIM.

Recognising the increasing significance of Building Information Modelling (BIM) in professional practice, Besné et al. (2020) investigate its use in undergraduate architecture and building engineering curricula. The purpose of the study is to evaluate how much BIM is taught in school and make sure that students are ready for its use in the building sector. The study emphasises the necessity for ongoing progress in the integration of BIM in education by looking at the present status of BIM implementation across Spanish institutions and providing a preliminary overview of pertinent scientific literature. The results highlight the significance of additional research to improve the implementation process and make it easier for students to acquire necessary skills, guaranteeing that they are prepared for their professional careers in the construction industry.

The use of digital modelling and Building Information Modelling (BIM) technology in educational architecture design is examined by Mikhailov et al. (2020). The integration of these technologies into architectural education is the main topic of the article, with an emphasis on how they affect design processes and instructional strategies. The authors talk about how digital modelling and BIM are changing how architecture students approach design by providing new chances for improved accuracy, collaboration, and visualisation in architectural projects. The research emphasises the value of using BIM and digital technologies in the curriculum to better educate students for the changing needs of the architectural profession by reviewing existing educational methods.

In order to improve engineering education, Wong et al. (2020) provide a BIM-VR framework that combines virtual reality (VR) with building information modelling (BIM). By enabling students to engage with virtual models of construction projects, this framework seeks to close the gap between academic knowledge and real-world application. The study is on how integrating BIM with VR technology might enhance students' comprehension of intricate engineering and architectural topics by offering immersive learning experiences. In order to better prepare students for the needs of the business, the authors emphasise how this novel technique might improve students' spatial awareness, design visualisation, and collaborative learning. The execution of the framework and its potential to influence the direction of engineering and architecture education are covered in the article.

A thorough assessment of the current status of Building Information Modelling (BIM) research and teaching in China is given by Li et al. (2020). The research looks at how BIM is becoming more and more significant in the design and construction sectors, as well as how Chinese colleges are incorporating it into their curricula. The writers evaluate the advancements in teaching strategies, curriculum creation, and the use of BIM technology in classrooms. They also look at the difficulties and obstacles that teachers encounter, such the dearth of resources for standardised instruction and the requirement for more cooperation between academics and business. The study focusses on important developments in BIM research, how government regulations encourage the use of BIM, and how Chinese educational institutions are working to bring their curricula into compliance with global BIM standards. The report ends with suggestions for future advancements in BIM education, emphasising the necessity of more creative teaching strategies and industry collaborations to better equip students for the changing needs of the construction industry.

The difficulties and solutions for successfully incorporating Building Information Modelling (BIM) into architecture education are examined by Laovisutthichai et al. (2023). The majority of architectural schools continue to use teaching methodologies based on engineering and construction management, which may not adequately address the creative aspects of architectural design, even though BIM has had a significant impact on the global Architecture, Engineering, Construction, and Operations (AECO) industry. According to a research done at one of Thailand's top architectural schools, treating BIM as a stand-alone topic might limit its ability to foster creative innovation. According to the research, BIM learning modules should instead be included into the architectural curriculum, especially in the core design studios and other relevant courses. Students may concurrently increase their architectural knowledge and BIM abilities with this integrated method. In order to better educate future architects for the changing needs of the profession, the findings emphasise the significance of integrating BIM into the larger framework of architectural education and provide insightful information for curriculum revision. It is recommended that future studies improve these techniques and fully utilise BIM's instructional potential.

A thorough analysis of the application of Building Information Modelling (BIM) in building energy evaluation is provided by Durdyev et al. (2021). BIM has become a game-changing tool for assessing and improving building performance as energy efficiency becomes a crucial component of sustainable design. By incorporating data-driven simulations, increasing design accuracy, and promoting stakeholder participation, the study investigates how BIM might improve energy assessment procedures. The authors draw attention to the difficulties in implementing BIM, such as the industry's resistance to change, knowledge gaps, and technological complexity. Their results highlight the necessity of a well-organised framework for successfully incorporating BIM into professional practice and architectural education, guaranteeing that aspiring engineers and architects will have the know-how to use BIM for sustainable building design. The study urges more research to improve BIM-based energy evaluation techniques and increase their suitability for use in practical projects.

The influence of digitalisation on construction education is examined by Olowa et al. (2020), who concentrate on the incorporation of Building Information Modelling (BIM) into university courses. Educational institutions are modifying their teaching strategies to meet the demands of the construction industry as it develops to include digital tools and workflows. After conducting a thorough examination of 305 pertinent papers, the study uses a Straussian Theory Model (STM) to analyse 44 distinct BIM for Construction Education (BfCE) scenarios. This strategy aids in comprehending different BfCE approaches, the circumstances surrounding their application, and the effects they have in educational environments. The study offers a conceptual framework that links BfCE methodologies to the more general trend of digitalisation in the construction sector. The study gives teachers a useful tool to choose and create efficient teaching methods by providing a typology of various BfCE models. This allows students to learn BIM skills while simultaneously utilising BIM as a tool to understand other construction-related ideas.

The need of engineering training in the successful use of Building Information Modelling (BIM) is emphasised by Salami and Alothman (2022). The necessity for specialised training programs to improve professionals' abilities has increased as BIM becomes an increasingly important tool in the architectural, engineering, and construction (AEC) sector. The study investigates several training approaches, their efficacy, and the difficulties in teaching BIM. The authors highlight the need of incorporating BIM-focused training into engineering curriculum to guarantee that graduates have the technical abilities necessary for contemporary building practices by looking at case studies and industry trends. The study emphasises that in order to fully profit from BIM and promote innovation in the AEC industry, practical training and multidisciplinary cooperation are essential.

The integration of virtual reality (VR) and building information modelling (BIM) in construction detailing education is examined by Elgewely et al. (2021). The study highlights how immersive technologies, which offer interactive and experience learning settings, can improve students' comprehension of architectural and engineering topics. Teachers may improve students' spatial awareness, technical proficiency, and problem-solving skills by utilising BIM-based virtual reality apps to close the gap between theory and practice. The study addresses issues with conventional construction detailing education while demonstrating how well immersive learning promotes engagement and recall. According to the results, implementing BIM-VR techniques can transform architecture education and better equip students for actual building procedures.

A bibliometric overview of developments in Building Information Modelling (BIM) research is presented by Babalola et al. (2021), who examine trends, important figures, and new issues in the area. In order to identify significant authors, research organisations, and the development of BIM applications in architecture, engineering, and construction, the study looks at a sizable collection of publications pertaining to BIM. With a strong emphasis on sustainability, digital transformation, and multidisciplinary cooperation, the findings demonstrate the growing interest in BIM among academia and business. In order to improve BIM acceptance, integration with new technologies, and its function in professional practice and education, the assessment also points up research gaps in the field.

In their systematic literature analysis on cooperation and risk in Building Information Modelling (BIM), Ali et al. (2022) draw attention to the potential and difficulties associated with BIM adoption in the architectural, engineering, and construction (AEC) sector. In addition to classifying the technical, legal, and organisational risks that come with implementing BIM, the research highlights how crucial it is for project stakeholders to work together in order to fully realise BIM's potential. The results indicate that the successful integration of BIM in construction projects depends on improved digital collaboration frameworks, standardised processes, and efficient risk management techniques. The study lays the groundwork for further investigations into risk mitigation and enhancing teamwork in BIM settings.

Using Building Information Modelling (BIM) software, Danial et al. (2023) provide a process for retrofitting energy efficiency in existing office buildings. The report emphasises how important BIM is for maximising energy efficiency, cutting expenses, and enhancing sustainability in older structures. The study offers an organised method for evaluating actual energy use, locating inefficiencies, and putting retrofit plans into action by combining BIM with energy analysis tools. According to the results, BIM-based retrofitting improves decision-making, makes precise simulations easier, and encourages the use of sustainable building techniques. The work adds to the expanding corpus of research on using digital technology to renovate buildings in an energy-efficient manner.

In order to determine the main factors facilitating the acceptance and use of Building Information Modelling (BIM) in Architecture, Engineering, and Construction (AEC) organisations, Abbasnejad et al. (2021) carry out thorough literature research. In order to successfully integrate BIM, the research divides these enablers into three categories: technological, organisational, and environmental. It highlights the importance of cooperation, leadership, training, and supporting legislation. The results show that although implementing BIM has many advantages, such as cost savings, sustainability, and efficiency, obstacles including change aversion, large upfront expenditures, and interoperability problems need to be resolved. The report offers AEC companies a thorough framework to help BIM adoption go more smoothly and realise its full potential.

In order to maximise design efficiency, sustainability, and structural performance, Omrany et al. (2023) examine the uses of Building Information Modelling (BIM) in the early stages of high-rise building design. The research looks at how BIM helps with energy analysis, parametric modelling, and interdisciplinary teamwork, allowing engineers and architects to make well-informed decisions from the very beginning of a project. BIM increases project viability, decreases mistakes, and improves design correctness by combining automation and simulation technologies. The study emphasises how crucial BIM is for optimising processes, reducing resource waste, and encouraging creativity in the design of high-rise buildings.

### 2.7 Major Findings from the literature

Several important insights that highlight the dynamic character of architectural pedagogy are revealed by the examination of architecture education in India and its applicability in the current setting. One important result is the increasing awareness of the necessity of incorporating technology into architecture education, emphasising how digital technologies like virtual reality and Building Information Modelling (BIM) can improve both the learning process and the design process. These technologies are viewed as vital in creating the future of architecture by making the education system more interactive, flexible, and linked with industry trends.

Additionally, as institutions realise the significance of environmental sustainability in forming future architects, there is a growing emphasis on the transition towards sustainability in architectural education. It is becoming more widely accepted that architecture education should emphasise sustainable design principles in addition to technical proficiency, promoting awareness of environmental concerns and the long-term effects of architectural decisions.

Another important subject is how educational environments have changed throughout time. The conventional method of teaching architecture, which was mostly conducted in actual classrooms and design studios, is being reinvented. A larger trend towards developing more adaptable, inclusive, and collaborative learning settings is reflected in the incorporation of virtual and regenerative spaces as well as a drive towards green campuses. The COVID-19 pandemic, which made the use of online learning resources and hybrid education models necessary, hastened this change. The need to strike a balance between virtual and real design studios and guarantee the ongoing development of students' creative and practical abilities are only two of the many opportunities and difficulties brought about by these developments.

The growing significance of competency-based education, which places an emphasis on useful, real-world abilities that may close the gap between academic learning and professional practice, is another noteworthy trend. In India, where there is a rising need to match curriculum with the changing demands of the business and the global labour market, this approach is especially pertinent to architecture education.

Last but not least, it is becoming increasingly clear that including traditional knowledge and vernacular architecture into the curriculum is crucial to protecting cultural heritage while addressing modern design issues. This component of education makes learning more comprehensive and locally based by enabling students to comprehend the historical background of architecture and its significance to contemporary practices.

The results, taken together, show how important it is for architectural education in India to stay grounded in regional customs and practical skills while simultaneously embracing global trends, sustainability, and technology breakthroughs. This method is essential for equipping students to handle the ever-changing demands of the 21st-century architectural profession.

## 2.8 Research Gaps:

The development of architectural education in India has advanced significantly, yet there are still a number of unanswered questions. The little research done on the long-term effects of integrating technology into architecture education is one of the main gaps. Although a variety of digital tools and technologies are being implemented in classrooms, little is known about how these developments impact students' learning outcomes, creativity, and problem-solving skills. Additionally, research on the efficacy of hybrid learning models—which combine conventional studio-based instruction with online learning—is needed, particularly in the field of architecture, where experiential, hands-on, and spatial learning are crucial.

The lack of investigation into curricular integration of sustainability is another significant research gap. Despite the growing emphasis on sustainability, little is known about how deeply it is integrated into different architectural education programs and how well it shapes students' design principles. Measuring the actual impact of such educational innovations requires studies that concentrate on how students are taught, comprehended, and implemented sustainability ideas in real-world situations.

Further study is also necessary to support the move to competency-based education, which emphasises giving students real-world, industry-relevant skills. Although it is widely acknowledged that this method can better prepare students for the working world, thorough research on its efficacy in bridging the gap between academia and the architecture industry is lacking. To determine how effectively the curriculum equips students for issues they will face in the real world and fits in with the changing needs of the global labour market, more study is required.

Furthermore, nothing is known about how traditional knowledge and vernacular architecture might be incorporated into modern architectural education. Despite the growing focus on cultural heritage preservation, little is known about the educational approaches and frameworks for integrating indigenous knowledge and vernacular design principles into contemporary curriculum. In a society that is becoming more globalised and where architectural practices are becoming more standardised, more research is needed to determine how these elements may be taught and included into the design process.

Finally, research on the changing requirements of architectural teachers and their professional growth is lacking. Understanding faculty members' training requirements, their capacity to adjust to new technologies and approaches, and the effects of this adaptation on teaching quality and student results are all crucial areas for future research as architectural education continues to evolve.

**2.9 Conclusion:**

The review of literature underscores that architectural education, both globally and in India, is at a critical juncture—challenged by the rapidly evolving needs of the profession, societal imperatives, and technological advancements. The historical evolution of architectural education in India reflects a trajectory shaped by colonial legacies, post-independence reforms, and the regulatory role of the Council of Architecture (COA). However, despite these structural developments, gaps remain between academic instruction and real-world practice.

The chapter brings to light several key themes emerging from recent research: the growing significance of sustainability, the transformative impact of digital technologies such as BIM and AI, the necessity for interdisciplinary and competency-based learning, and the increasing importance of experiential pedagogies. The integration of local and traditional knowledge systems, critical pedagogical frameworks, and global best practices is also emphasized as essential for the contextual relevance and social responsiveness of architectural education in India.

Furthermore, a comparative view reveals that Indian curricula, while standardized, often lag in terms of responsiveness to contemporary industry demands, especially in areas like practical skill development, technological adaptability, and sustainable design approaches. Studies reviewed highlight persistent gaps—between academia and industry, between pedagogy and profession, and between tradition and innovation.

In conclusion, this chapter identifies the need for curriculum reform that is dynamic, inclusive, and aligned with the realities of the profession. It also highlights the necessity for policy-level interventions, updated pedagogical models, and closer collaboration between academic institutions and industry. The insights derived here form a critical foundation for the ensuing chapters that will analyse empirical data, assess stakeholder perspectives, and propose evidence-based strategies for enhancing architectural education in India.

# CHAPTER-3

# RESEARCH METHODOLOGY

## 3.1 Introduction:

This study is based on a research methodology that provides a structured process for exploring the current state of architecture curriculum in India, as well as establishing its significance, relevance, and applicability in today's context. With ongoing evolution of architectural education in reaction to technological innovation, sustainability issues and shifting industry opportunities, it is crucial to examine how the current course of study prepares students for current day tasks. This chapter describes the various research methodology, data collection techniques, and analytical tools used to meet the objectives of the study.

This study employs both qualitative and quantitative approach to ensure robust understanding of the topic. Surveys and interviews with key stakeholders (educators, students, and industry professionals) are used to collect primary data, while secondary data is used to analyze academic literature, regulatory guidelines, and curriculum frameworks put forth by the Council of Architecture (COA) and the National Education Policy (NEP). This mix enables a complete analysis, registering a variety of perspectives on the strengths, weaknesses, and potential improvements to the existing curriculum.

This study determined the curriculum's relevance to industry expectations and the global best practices through descriptive and analytical research methodologies. This study provides a holistic analysis of all components of architectural education, collating existing research on content, pedagogical innovations and industry standards to highlight the strengths and gaps of curricula around the world. The following sections provide a comprehensive account of the methodology, covering the research design, data collection methods, sampling strategies, and analytical approaches employed to ensure a robust and unbiased investigation.

## 3.2 Research Design:

The nature of this study is exploratory and descriptive, aimed at investigating the relevance of the present architecture curriculum in India, given the changing industry expectations and innovations in architectural practice.

This exploratory phase of the study is important given limited prior research around the effectiveness of architectural education in India to prepare students to match current professional challenges. Such an approach aids in identifying gaps in the curriculum, hearing from the key stakeholders, and discovering new insights into how architectural education aligns with the real-world needs. The study will contribute to improvements through exploration of the curriculum layout, teaching approaches, and industry requirements as areas of focus and will establish a basis for future research.

This descriptive part is important to record and analyze the state of affairs of architectural education in India in a systematic manner. Asking students, educators, and industry professionals about their experiences, perceptions, and expectations with respect to the curriculum by collecting detailed data from the selected group is an important aspect of it. It also undertakes a literature review comparing existing regulatory guidelines, academic frameworks, and relevant international best practices to give voice to the challenges and opportunities that the current system exists.

The research is designed to involve structured surveys, interviews, and copious academic literature and governing bodies regulatory policies information (COA and with a focus on NEP curriculum guidelines) to fulfil these objectives.

This study seeks to evaluate the strengths and weaknesses of the existing curriculum in relation to contemporary architectural practices through synthesizing insights from various stakeholders. These insights will help highlight areas where changes are necessary, and will inform recommendations that ultimately strengthen the ability of the curriculum to prepare students with the skill sets needed in the contemporary architectural field.

### 3.3 Rationale Behind the Study

Architecture, as a field, is foundational to the definition of the built world, and the education of the profession must be dynamic and responsive to the demands of technology, sustainability, and societal imperatives. In India, the Council of Architecture (COA) regulates architectural education in the country and provides guidelines on the curriculum structure. Yet, with the rapid changes in construction technology, urbanization, digital design and environmental and social consciousness, it is time to look closely at whether or not the current architecture curriculum is serving students well as they enter into a professional landscape that is very different from that which prevails today.

It is this need that drives the need to evaluate the relevance and efficacy of architectural education in India today. The comment thread is long but many of the practicing architects or other industry professionals commented on gaps between academic learnings and real world experience. These have been cited as major challenges, including outdated syllabi, lack of hands-on training, no focus on new emerging technologies (BIM, parametric design), and lack of industry exposure. It is important to respond to these concerns so that graduates leave with the skills that they'll need to flourish in the increasingly competitive, fast-changing worlds of work.

Moreover, global best practices in architectural education also stress the importance of interdisciplinary learning, sustainability and digital innovation, areas where Indian curricula may need to be revamped. This study makes the examination and analysis of the extent to which the current curriculum take into account these global trends and thus determination of the need and necessity of changes to the curriculum.

Through an analysis of the stakeholder perspective; students, faculty, and industry professionals—this work aims to provide a long-form fashion, evidence-based insight, into the current systems strength and potential weaknesses. The results will help to inform policy debates, curricular changes, and academic improvements to ensure institutions graduate architects who are better prepared to meet modern professional demands.

This study is important not just for educational and student cohorts but for policy makers, regulatory agencies, and employers who depend on the discipline to train individuals for contemporary challenges facing society today in the context of urban development, infrastructure and sustainability. Additionally, the findings of this research study may provide a catalyst for further studies and reforms in architectural education and its relevance in the architectural sector in the years to come.

### 3.4 Scope of the Study

This study intends to examine the present architecture curriculum in India and whether its relevance holds good currently, whether it resembles with sector requirements, advances in technology, and best practices worldwide. This study investigates the curriculum framework, pedagogical practices, policy environment, and stakeholder insights to explore its weaknesses and provide recommendations for future reform.

The study involves implementation of certain relevant measures from COA guidelines across the nation to help architectural institutions maintain synergy with COA. We are evaluating how well core subjects, electives and specialized courses equip students to meet modern architectural challenges. It also assesses common pedagogical approaches within architecture education such as studio-based learning, theory, use of digital technologies and practical experience. This also includes identifying the need for practical experience, industry exposure, and the inclusion of new-age technologies like Building Information Modelling (BIM), parametric design, smart cities, and sustainable architecture.

The particular focus in the study is the perception of stakeholders (students, faculty, and industry professionals) on the sufficiency of the current curriculum. The report also analyses trends in employer expectations and skill gaps in architecture graduates. Through comparative analyses, the study critiques Indian architectural education vis-a-vis global best practices and what changes, if any, can help it become more effective.

Geographically, the United States has been the home ground for the research, with the inclusion of government, private, and autonomous architecture colleges followed by content from State and Central universities, in both Urban and Rural areas to get a sense of difference in the field of architectural engagement in these regions. These results will serve as a basis for discussions on curriculum reforms and a foundation for recommendations to academicians, policy-makers, and regulatory bodies to enhance the effectiveness of architectural education.

Adding to the significance, the study also serves as a reference for future research related to interdisciplinary education, the integration of sustainability in architectural education, and the digital transformation of teaching and learning. But it is limited to undergraduate architecture programs in India without going beyond a general review of postgraduate or doctoral studies. Although other approaches are possible through an international lens, it is the Indian model in architectural education and the consequent issues that the study deals with, while comparison may leverage other models.

### 3.5 Data Collection

Data was collected in a structured manner to develop a broad understanding of the current architecture curriculum in India. This in turn, was used to gain information on its usefulness and industry alignment. The feedback on various aspects of architectural education is gathered from main sources through primary and secondary Surveys. Structured questionnaires targeting key stakeholders like architecture students, faculty members, and industry professionals are used to gather primary data. The surveys are conducted to capture their insights on the adequacy of the curriculum, the effectiveness of teaching methodologies, and the challenges they encounter in closing the loop between academia and the ever evolving workspace. Furthermore, employer feedback within the architectural domain aids in evaluating how well students are equipped for the challenges they will face in the field.

Secondary data include academic literature, policy documents, and curriculum guidelines issued by the Council of Architecture (COA); National Education Policy (NEP); and case studies of architectural education models in a few other universities. Understanding the regulatory framework, analysing best practices, and discovering areas for the Indian curriculum to rethink its approach.

The data collection was performed across several architectural institutions in India, like government, private and autonomous colleges to ensure diversity in representation. The data is then analyzed to identify any patterns, gaps or potential areas of improvement in the curriculum and recommends future changes.

### 3.6 Sampling Techniques

In order to provide a comprehensive and representative assessment of the current architecture curriculum in India, a structured methodology will be followed for selecting study participants. The sampling technique consists of defining the target population, choosing a suitable sampling method, and using a statistical method to derive the sample size.

#### 3.6.1 Target Population

The study examines various key stakeholders in architectural education in India:

i. Key learning experiences are identified through interviews with undergraduate architecture students to understand their challenges and expectations of the curriculum.

ii. Its purpose was to evaluate teaching practices, curriculum design and incorporation of industry-embedded training in architecture academic institutions collaboratively by a group of architecture practitioners and academic architects from across the country.

iii. Industry experts, such as practicing architects, urban planners, and recruiters, to assess the readiness of graduates and the adequacy of academic training to meet professional requirements.

### 3.6.2 Sampling Method

A stratified random sampling and purposive sampling techniques are used:

i. **Stratified Sampling:** The population was classified into strata as per criteria such as institution type (government, private, autonomous), geographical type (urban, semi-urban, rural), and type of respondents (students, faculty, and industry professionals). This guarantees diverse representation.

ii. **Purposive sampling:** Here, participants are chosen from each stratum based on their level of expertise, experience, or academic profile to gain rich, informative insights. This specifically includes faculty with curriculum development experience; students from all academic years; and businesses professionals who are hiring and mentoring.

### 3.6.3 Sample Size Determination

The sample size is determined using **Slovin's formula**, which helps in calculating an appropriate sample size based on a known population size. The formula is:

$$n = \frac{N}{1 + Ne^2}$$

Where:

- n = required sample size
- N = total population size
- e = margin of error (typically 5% or 0.05 for a 95% confidence level)

#### 3.6.3.1 Calculation for Each Respondent Group

i. **Students**

- Estimated total student population in architecture colleges across India: **25,000**
- Applying the formula:

$$n = \frac{25000}{1 + 25000(0.05)^2} = \frac{25000}{1 + 62.5} = \frac{25000}{63.5} \approx 393$$

- To ensure broader representation, the sample size is increased to **500 students**.

ii. **Faculty Members**

25 academic institutions were selected using purposive sampling technique and out of each institute 10 faculty members were randomly selected for the survey, hence the sample size is set at 250 faculty members for balanced representation.

iii. **Industry Professionals**

For professionals in the industry, purposive sampling was adopted wherein architects, urban planners and recruiters active across India in the sector were identified. By choosing 40 different architecture firms, construction companies and urban planning organizations, the team represented a diversity of perspectives. A random sample of 4 professionals from each organization was chosen for the survey, yielding a total sample size of 160 industry representatives. These professionals possess firsthand expertise in evaluating architecture graduates from their own experience of hiring and evaluating architectural graduates, and the workplace skill expectations from architecture education.

### 3.7 Pilot Study

A pilot study was performed to evaluate the feasibility and efficiency of the research design, data collection instruments, and the overall study model. The pilot study focused primarily on understanding potential data collection challenges and other refinements to the questionnaire/survey and addressing aspects of research instruments to ensure their clarity and relevance prior to large-scale implementation.

The pilot study was conducted with a small sample of 100 respondents, which included 50 architecture students, 25 faculty members, and 25 industry experts. The participants included representatives from government and private institutions, as well as autonomous institutions and practicing professionals from architecture firms. To ensure comprehensibility and responsiveness of the survey questionnaire/ interview schedule, a few of the selected participants were pelleted and asked to fill in the questionnaire.

To increase clarity and reduce ambiguity, minor changes were made to some survey questions based on feedback received during the pilot study. Moreover, the response patterns informed a refined data collection strategy, which enhances a full-scale study, providing for both a smoother and more efficient study. The pilot study proved that the research framework is well-suited to obtaining the needed data to assess the relevance of the existing architecture curriculum in India.

The reliability (internal consistency) of the questions in this questionnaire for the current study is assessed using Cronbach's alpha on a sample of 100 respondents, which included 50 architecture students, 25 faculty members, and 25 industry experts.

**Table 3.1 Reliability Score**

| Sr. No. | Items | No. of Items | Cronbach's alpha value | | |
|---|---|---|---|---|---|
| | | | Student | Faculty Members | Industry Professional |
| 1 | Alignment of Curriculum with Industry Needs | 10 | 0.965 | 0.936 | 0.955 |
| 2 | Impact of Curriculum Rigidity on Adaptability to Trends | 10 | 0.979 | 0.974 | 0.955 |
| 3 | Effectiveness of Practical Training and Skill Development | 10 | 0.988 | 0.971 | 0.881 |
| 4 | Challenges in Adopting Modern Technologies in Architectural Education | 10 | 0.955 | 0.970 | 0.928 |
| 5 | Role of NEP 2020 in Curriculum Restructuring | 10 | 0.989 | 0.967 | 0.929 |

This demonstrates a high internal consistency and reliability for all measured constructs across students, faculty members and industry professionals, as verified by Cronbach's alpha values. Curriculum alignment with industry shows high reliability (0.965 (students), 0.936 (faculty) and 0.955 (industry professionals)) indicating uniform perception among the respondents. The coefficient of the adjust of sigmoid to trends of curriculum rigidity hits even higher reliability (0.979, 0.974, and 0.955), suggesting a strong agreement on its significance. Crossover for the effectiveness of practical training and skill development has the most persuasive role for students (0.988), and convincingly high values for being effective for faculty (0.971) and industry (0.881), communicating that all stakeholder groups appreciate the capacity of practical training and skill development. So does the factor for the challenge in the adoption of modern technologies in architectural education (0.955, 0.970 and 0.928), which highlights the need for technological integration. Last but not least, the impact of NEP 2020 for curriculum restructuring considered the most dependable among students (0.989) and key consensus amount faculty (0.967) and industry professionals (0.929), which implies that respondents evidently appreciate its role in architectural education. In conclusion, the results show that the Cronbach's alpha values of all the categories are high, indicating that the survey instrument is a robust and consistent measurement tool for assessing the relevance of the architecture curriculum.

**3.8 Development of Questionnaire**

In order to ensure continuity of context, the survey for the current study was designed to gain a holistic understanding of students and professors, and what they perceive constitutes the relevance of the Indian architecture curriculum today. The development of the new tool included literature review, expert consultations, pilot testing, and refinement for clarity, validity, and reliability.

A comprehensive literature review was first undertaken to extract major themes and constructs related to architectural learning, industry alignment, skills generation and curriculum adaptability. A draft questionnaire was prepared according to the analysed data and consisted of close-ended questions and Likert scale based questions that allowed for structured responses yet provided variability among opinions.

To improve the effectiveness of the questionnaire, experts from academia and industry were engaged to validate the relevance of the items, thus making certain that the questions reflected critical components of curriculum effectiveness, practical training and industrial expectations. The questionnaire was pre-tested with 50 respondents (25 students, 15 faculty members, and 10 industry professionals), selected through experts review process. Did the pilot study assist with clarity of questions, how long does it take to respond in seconds, what might be ambiguous that needs in your opinion some change?

The last version of the questionnaire was organized into sections, each of them addressing one or more research objectives. Key sections included:

i. Demographic Details (age, academic/professional background, type of institution, etc.)

ii. Curriculum Industry Alignment (identifying discrepancies between academia and field practice).

iii. The Restrictions/ hurdles in Curriculum reforms ( being tied to /being unable to pivot based on trends)

iv. The Role and Impact of Practical Training and Skill Development (Internships, on-the-job training, workshops etc.)

v. Issues & Challenges of Adopting Modern Technologies in Architecture curriculum (discussions on obstacles in incorporating new technology into architectural education).

vi. NEP 2020 Contributing Factor in Curriculum Restructuring (reviewing perceptions of recent educational policy reforms).

The reliability of the questionnaire was confirmed by high Cronbach's alpha values for all sections, indicating that the instrument was well-structured, capable of generating meaningful and consistent responses. The final questionnaire was then further administered to a larger sample of 500 students, 250 faculty members, and 160 industry professionals for the main study.

**3.9 Data Analysis Tools and Techniques:**

A mixture of graphical and inferential statistical methods were used to analyse the collected data to draw the conclusions on the relevance of existing undergraduate architecture curriculum in India. For example, bar charts, pie charts, and histograms were used to provide a graphical visualization of responses, trends, and distribution patterns for different respondent groups, making the data easier to interpret.

For some inferential analysis, statistical tests have been calculated to test the proposed hypothesis and to verify the significant relationships between the different variables. A. One-Way ANOVA was used to check the hypotheses that the curriculum matches with the industry, effectiveness in terms of practical skills and NEP 2020 has restructured all the curriculum. This approach allowed to evaluate differences of views between students and faculties and/or professionals. Furthermore, Chi-Square Tests were used to assess the hypotheses on curriculum rigidity and rigidity vs realism, and impediments towards the modernization of technology of architectural education. This enabled the identification of important relationships between categorical variables, such as institution type and perceptions of technology barriers.

Used in conjunction, these analytical tools helped inform the overall assessment of the architecture curriculum, emphasizing parts for update and enhancement to ensure industry relevance and skill development in graduates.

### 3.10 Limitations of the Study:

The limitations of the study are:

**i. Geographical Scope:** The geographic scope of the study is limited to selected institutions and industry professionals within India and does not fully reflect the global architectural education landscape.

**ii. Respondent Bias:** Students, faculty members, and industry professionals may respond based on their experiences or policies in effect in their institutions.

**iii. Curriculum Response:** The study considered the curriculum of architecture as relevant only at a certain point in time while learning is continuous and ever-changing as are educational policies and industry needs.

**iv. Limited Industry Representation:** The industry professionals who participated in the user testing were selected based on their availability, which may not adequately represent the perspectives of all segments of architectural firms, urban planners, and construction companies.

**v. Differences in Technology Adoption:** The extent of availability and integration of modern technologies in architectural education differs across institutions, which may cause differences in responses.

**vi. Self-Reported Data:** The study is dependent on survey answers, which can be influenced by social desirability bias or misunderstanding by the participants of a question.

**vii. No Postgraduate Curriculum Involvement:** Although this study is aimed specifically toward undergraduate architecture education, results are not necessarily transferable to the postgraduate arena or even specialty courses.

### 3.11 Conclusion

This chapter outlined the structured and comprehensive research methodology designed to examine the relevance, responsiveness, and effectiveness of the undergraduate architecture curriculum in India. Employing a mixed-methods approach, the study intends to integrate both qualitative and quantitative data collection and analysis techniques to provide a nuanced understanding of stakeholder perspectives and systemic issues. Through stratified and purposive sampling, and the development of a well-validated questionnaire with high reliability scores, the research design ensures robust, representative, and meaningful data acquisition from students, faculty, and industry professionals across diverse institutional and geographical contexts.

The rationale behind the study highlights the critical need for curriculum reform in light of technological advancements, sustainability imperatives, and evolving industry demands. The methodological framework, from pilot testing and questionnaire development to inferential statistical analysis, is aimed at identifying curriculum gaps, evaluating industry alignment, and assessing the integration of contemporary tools and practices such as BIM, parametric design, and NEP 2020 directives.

While the methodology enables a rigorous and multi-perspective evaluation, acknowledged limitations such as geographic constraints, reliance on self-reported data, and exclusion of postgraduate curricula also define the boundaries of the study. Nonetheless, the research design provides a solid foundation for generating evidence-based insights and recommendations, offering critical value for educators, policymakers, and regulatory bodies. The subsequent chapters will build upon these methodological foundations to present the empirical findings, analysis, and implications for curriculum improvement in Indian architectural education.

## CHAPTER-4

## DATA ANALYSIS

### 4.1 Introduction:

This chapter provides an extensive survey analysis of the students, faculty members and industry representatives regarding contemporary status of relevance of the architecture curriculum in the Indian context today in the professional and academic landscape. The data was methodically analysed graphically to showcase major trends and findings. Moreover, hypothesis testing was performed to confirm significant relationships and patterns helpful from responses. This analytical lens seeks to provide a data-informed insight on how well the current curriculum is keeping pace with the industry frontiers, teaching innovations and changing architectural practices. It also analyses the perception of various stakeholders about expectation from NEP implementation with respect to architecture education. This analysis will be used to create a new curriculum recommendations to close any remaining gaps.

### 4.2 Students:

The following analysis gives the graphical interpretation of the data collected from 500 present as well as past students of Architecture. The analysis is divided into two sections demographic analysis and objective specific analysis.

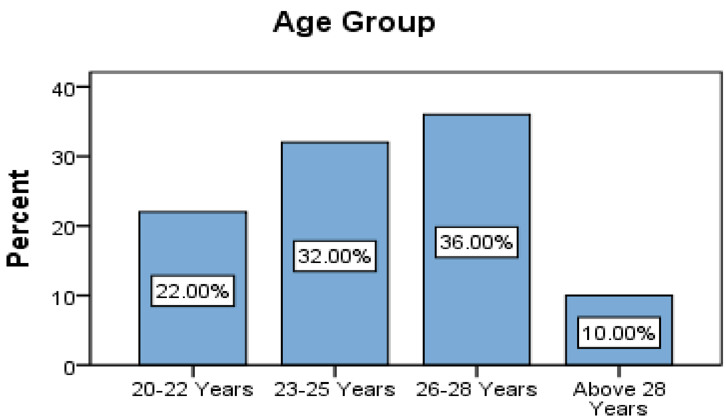
#### 4.2.1 Demographic Analysis:

**Table 4.1**

**Age Group**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 20-22 Years | 110 | 22.0 | 22.0 | 22.0 |
| | 23-25 Years | 160 | 32.0 | 32.0 | 54.0 |
| | 26-28 Years | 180 | 36.0 | 36.0 | 90.0 |
| | Above 28 Years | 50 | 10.0 | 10.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.1**



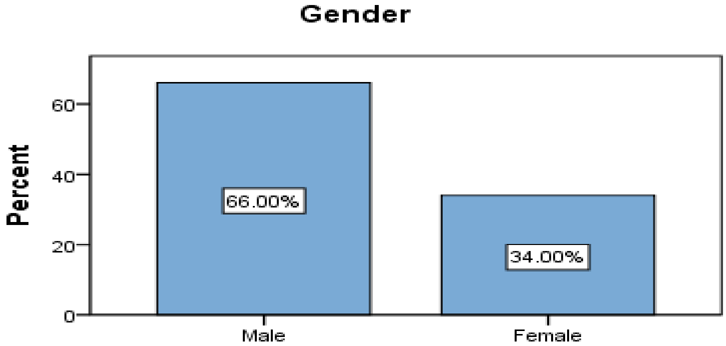

36% of the total sample was found to be 26-28 years of age. Then comes 23-25 years old for 32% of respondents. The most common, long-term responders belong to the 20-22 years age group (22% of the sample), and only 10% of respondents are above 28 years. This distribution indicates that a large proportion of respondents are in the early to mid-career stage, and combines diverse experiences and points-of-view represented by students to young professionals and even somewhat experienced architects operating within the profession.

**Table 4.2**

**Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 330 | 66.0 | 66.0 | 66.0 |
| | Female | 170 | 34.0 | 34.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.2**



Based on the gender ratio, out of all those who answered, members made up 66% male and 34% female. This, of course, reflects the overwhelming majority of students are male in the field of architecture. This data emphasizes the importance of reviewing gender balance in architecture education, which are core tenets of inclusivity and diversity within the field, noting that maybe a professional gap exists in how women are treated within the field.

**Table 4.3**

**Current Education Status**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Final-year undergraduate student | 270 | 54.0 | 54.0 | 54.0 |
| | Recent graduate (Graduated within the last 5 years) | 230 | 46.0 | 46.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Data Points - Current Education Status:** 54% final-year undergraduate; 46% recent graduates (within five years of graduation). With this distribution, we gain a balance of perspective from both individuals currently in academia and those working in the real world. These groups provide valuable insight into the effectiveness of the architecture curriculum in preparing students for both industry and professional demands.

**Figure 4.3**

**Current Education Status**

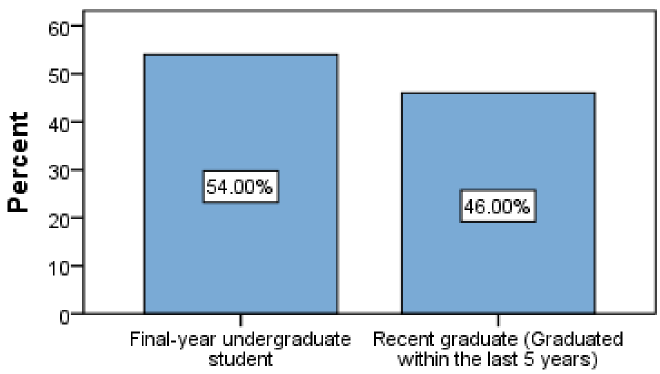


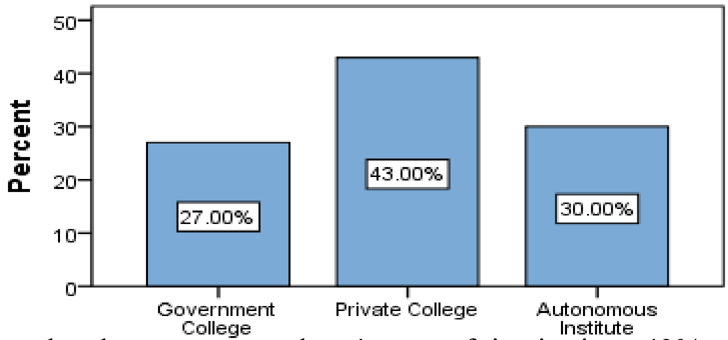
**Table 4.4**

**Type of Institution**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Government College | 135 | 27.0 | 27.0 | 27.0 |
| | Private College | 215 | 43.0 | 43.0 | 70.0 |
| | Autonomous Institute | 150 | 30.0 | 30.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.4**

**Type of Institution**



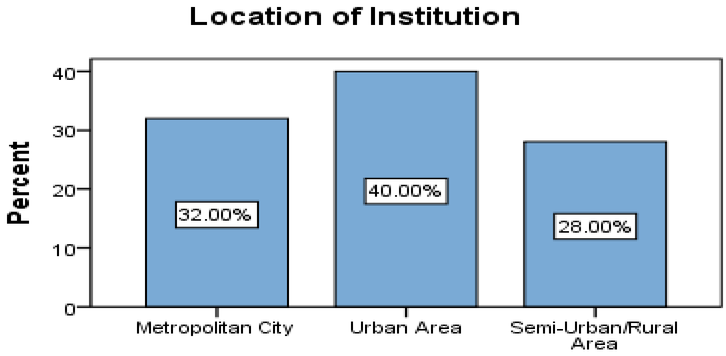

According to the data on respondents' type of institution, 43% come from private colleges, the largest percentage. This is 27% from government colleges and 30% from autonomous institutes. This balance distribution between different types of institutions brings many perspectives to the comparison and allows a thorough review of the architecture curriculum. This variation gives us an indication of how these graduates might be designed differently from an educational perspective including curriculum structure, teaching styles, and exposure to industry projects.

**Table 4.5**

**Location of Institution**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Metropolitan City | 160 | 32.0 | 32.0 | 32.0 |
| | Urban Area | 200 | 40.0 | 40.0 | 72.0 |
| | Semi-Urban/Rural Area | 140 | 28.0 | 28.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.5**



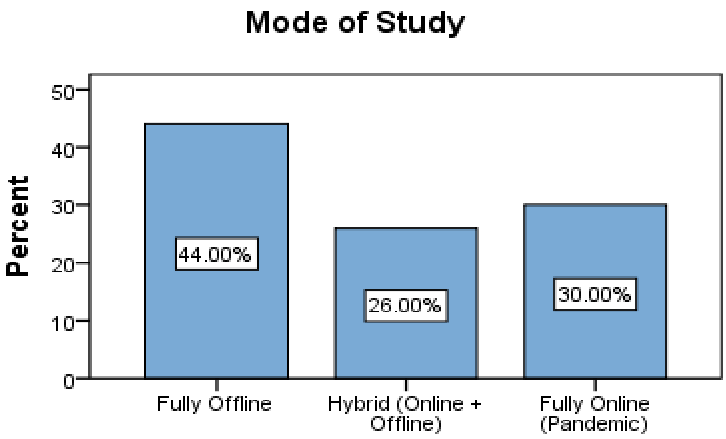

Assessment of respondent type based on the geographic location of the institution indicates that 40% of respondents are from institutions located in urban areas, followed by metropolitan cities 32% and semi-urban/rural area 28%. Respondents from diverse geographic settings give insight into differences in access to resources, industry exposure, and curriculum effectiveness across regions.

**Table 4.6**

**Mode of Study**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Fully Offline | 220 | 44.0 | 44.0 | 44.0 |
| | Hybrid (Online + Offline) | 130 | 26.0 | 26.0 | 70.0 |
| | Fully Online (Pandemic) | 150 | 30.0 | 30.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.6**



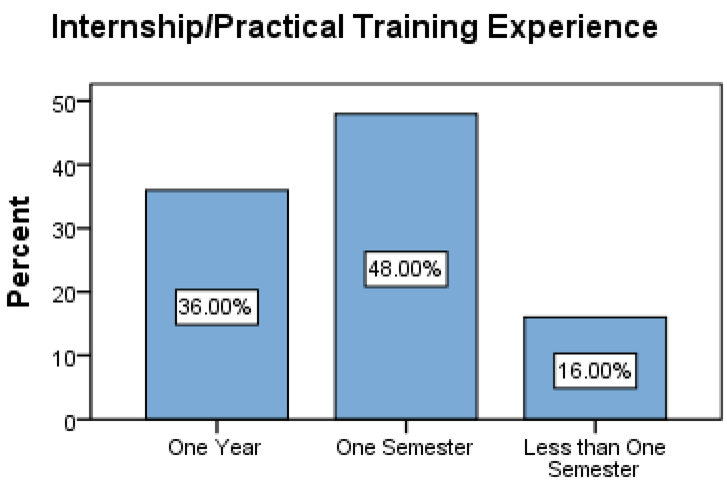
According to the mode of education data, 44% of participants have completed their bachelor architecture education completely offline, with 26% completing in hybrid mode (online + offline). In addition, 30% have studied Final Year of their graduation completely online. This diversity does evidence very much about various and heterogeneous learning environments of architectural education, which inevitably shows us the established representation of digital platforms iş in our academic platforms. These two different modes of study provide insights that can inform decisions about the comparative effectiveness of more traditional and technology-driven forms of learning in preparing the student for professional practice.

**Table 4.7**

**Internship/Practical Training Experience**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | One Year | 180 | 36.0 | 36.0 | 36.0 |
| | One Semester | 240 | 48.0 | 48.0 | 84.0 |
| | Less than One Semester | 80 | 16.0 | 16.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.7**



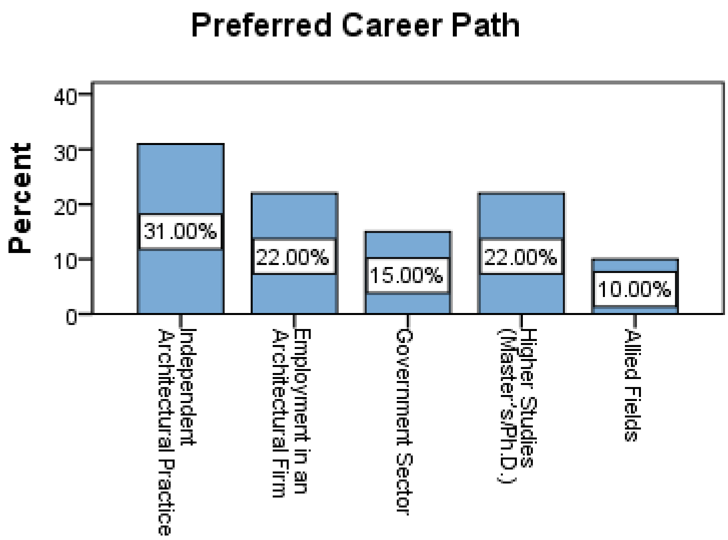
Regarding internship and practical training experience, 48% of respondents completed an internship of one semester, and 36% of respondents completed an internship of one year. At the same time, 16% have completed internship of less than one semester.

**Table 4.8**

**Preferred Career Path**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Independent Architectural Practice | 155 | 31.0 | 31.0 | 31.0 |
| | Employment in an Architectural Firm | 110 | 22.0 | 22.0 | 53.0 |
| | Government Sector | 75 | 15.0 | 15.0 | 68.0 |
| | Higher Studies (Master's/Ph.D.) | 110 | 22.0 | 22.0 | 90.0 |
| | Allied Fields | 50 | 10.0 | 10.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.8**



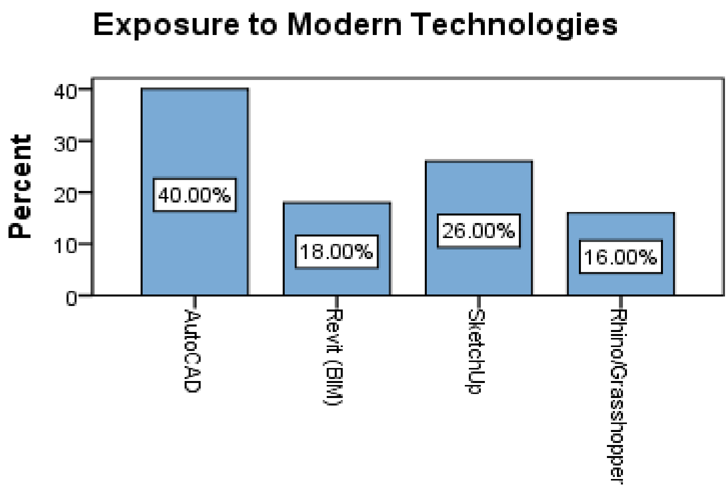

The survey shows the majority of respondents (31%) prefer independent architectural practice as their career choice. Jobs in the field of architecture and pursuing higher studies (Master's/Ph. D.) are all equally desired by 22% of respondents, respectively. 15% of respondents select the government sector, and 10% show interest in allied sectors. These results indicate a clear tendency to extend such talents into an entrepreneurial venture as well as academia in architecture, indicating a desire to pursue not only professional practice, but also academia.

**Table 4.9**

**Exposure to Modern Technologies**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | AutoCAD | 200 | 40.0 | 40.0 | 40.0 |
| | Revit (BIM) | 90 | 18.0 | 18.0 | 58.0 |
| | SketchUp | 130 | 26.0 | 26.0 | 84.0 |
| | Rhino/Grasshopper | 80 | 16.0 | 16.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.9**



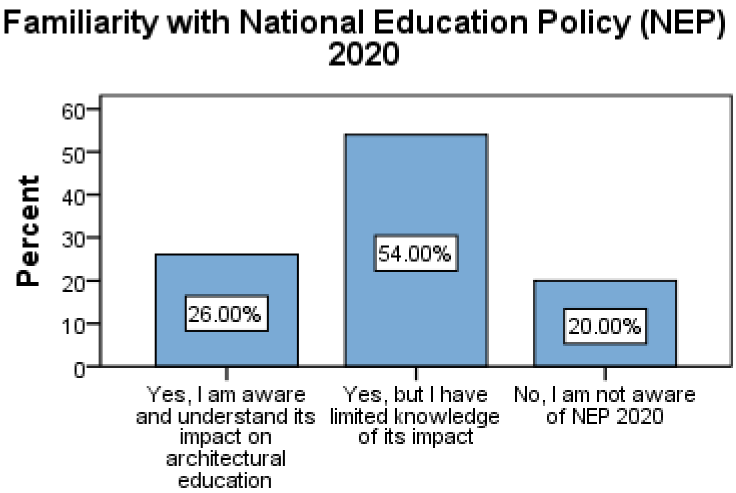

The survey results show that AutoCAD is the most widely used modern technology, with 40% of the respondents reporting exposure to it. 26% have exposure to SketchUp, 18% to Revit (BIM), and 16% to Rhino/Grasshopper. It would seem that AutoCAD and SketchUp are the main players, whilst tools such as Revit(BIM) and Rhino/Grasshopper have also, though to a lesser extent, made an appearance, representing a more advanced type of technology.

**Table 4.10**

**Familiarity with National Education Policy (NEP) 2020**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes, I am aware and understand its impact on architectural education | 130 | 26.0 | 26.0 | 26.0 |
| | Yes, but I have limited knowledge of its impact | 270 | 54.0 | 54.0 | 80.0 |
| | No, I am not aware of NEP 2020 | 100 | 20.0 | 20.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.10**




The NEP 2020 awareness figure indicates that 26% of participants are conscious of the policy and its bearing on architectural education; however, the majority (54%) have only limited exposure to it. On the other hand, 20% claim to know nothing about NEP 2020. This infers that the architectural community lacks general knowledge and understanding of the reforms, which implies there are limited discussions on the policy impact on curriculum design, skill development and professional preparedness and very limited dissemination of information among the group and releasing information about the education sector of architecture.

### 4.2.2 Alignment of Curriculum with Industry Needs

Architecture is a field of constant evolution, shaped by technology, sustainability initiatives and changes in urban development practices. With this in mind, architectural education should prepare graduates for the work force, which is why education should be in line with industry trends. Students should be gaining both theoretical knowledge along with technical skill sets that will make them marketable in the workplace — and this is no different when it comes to framing the future of the profession at large and tackling present-day urgencies of design, construction and urbanization.

Architectural education has increasingly focused on teaching a range of new technologies like Building Information Modeling (BIM), parametric design tools, and sustainable construction practices in recent years. Yet, there are gaps between what is taught in the classroom, and the skills needed in actual practice. Fresh graduates are often found to lack crucial hands-on experience, problem-solving skills and interdisciplinary cooperation, according to employers. Bridging these divides means having a dynamic curriculum responsive to industry needs but also adaptable to how architecture education fosters creativity, critical thinking and technical skills.

Equally vital are internships, industry relationships, and project-based learning that helps to bridge this gap. Students should also gain more exposure to live projects, site visits, and organisations, where they can learn how to tackle real-world architectural issues under professional supervision. Additionally, by offering classes in project management, business of architecture, and regulatory frameworks, one can also equip students for different career electives as ultimately prepared professionals.

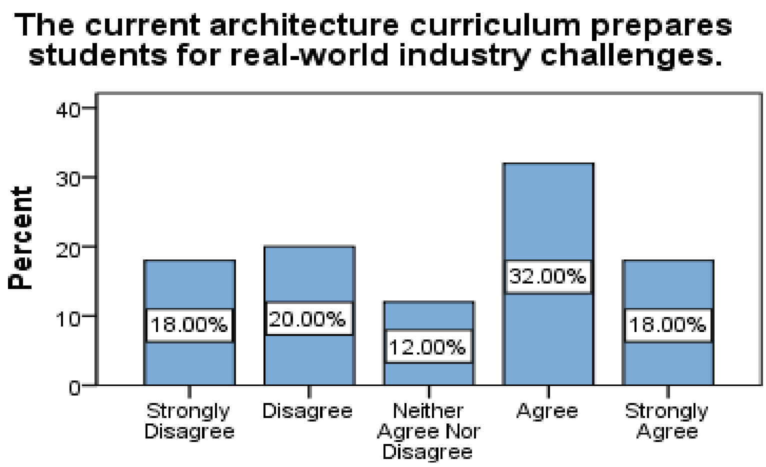
This is a crucial time for fundamental restructuring of the educational system across the board and, in this context, the National Education Policy (NEP) 2020 will play a decisive role in our educational paradigm, and for architectural studies as well, in taking a more multidisciplinary and flexible approach. Architectural education can generate professionals who are not just equipped with the right skills, but also throw up a broader range of opportunities to graduates who can grow as the profession evolves, through industry feedback integration, curriculum enhancement, and improved academia-industry networks. Industry-oriented curriculum alignment is critical because architects should meaningfully contribute to the built environment while still aligning with global trends and innovations. Following are the opinion of students towards this issue:

**Table 4.11**

**The current architecture curriculum prepares students for real-world industry challenges.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 100 | 20.0 | 20.0 | 38.0 |
| | Neither Agree Nor Disagree | 60 | 12.0 | 12.0 | 50.0 |
| | Agree | 160 | 32.0 | 32.0 | 82.0 |
| | Strongly Agree | 90 | 18.0 | 18.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.11**



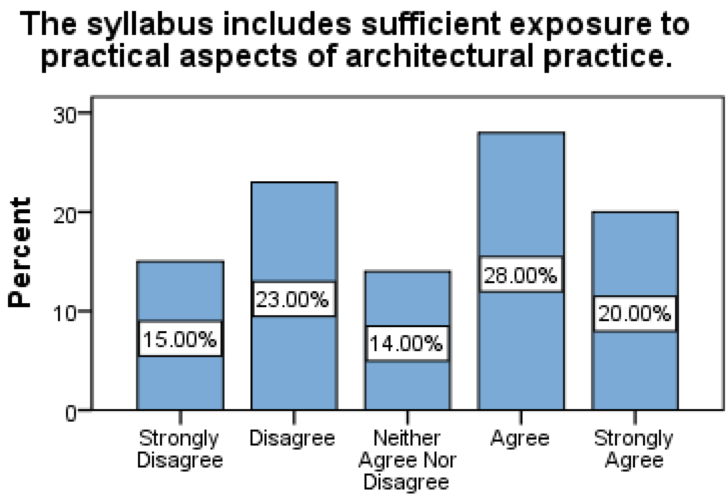

Now, let's take a look at data on views on whether attaining the architecture curriculum as it currently is, right now, can prepare professionals for practical, real-world, industry problems. Though 32% and 18% of respondents agree and strongly agree, respectively, that the curriculum gives them the skills they need, a large number remain unconvinced. Some 20% disagree and 18% strongly disagree, suggesting reservations about the curriculum's relevance and its practical applicability. Another 12% of respondents are neutral on the topic. The above data reflects that even though a significant percentage of students feel the curriculum is beneficial, a huge gap still exists between academic instruction and in the actual industry, sparking the need for curriculum enhancement, practical exposure, and extensive collaboration between the industry and academia.

**Table 4.12**

**The syllabus includes sufficient exposure to practical aspects of architectural practice.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 75 | 15.0 | 15.0 | 15.0 |
| | Disagree | 115 | 23.0 | 23.0 | 38.0 |
| | Neither Agree Nor Disagree | 70 | 14.0 | 14.0 | 52.0 |
| | Agree | 140 | 28.0 | 28.0 | 80.0 |
| | Strongly Agree | 100 | 20.0 | 20.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.12**



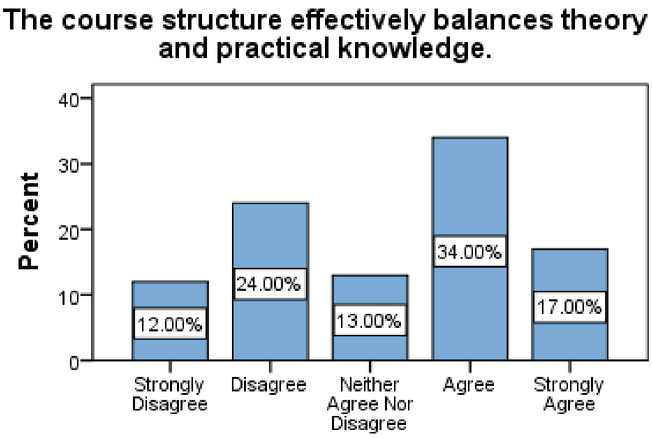

There are contrasting opinions on whether practical exposure is sufficient in the architecture syllabus. Although 28% of respondents agree and 20% strongly agree that adequate practical aspects have been incorporated into the curriculum, it can be quite evidently seen that there's an alarming rate of 23% of respondents who disagree with the above statement and 15% who strongly deny the fact which clearly shows that a large fraction of the students feel that the syllabus lack real world approach. Fourteen percent, meanwhile, remain undecided on the issue. These results signal towards a realization that although few students perceive the courses to contain vital practical areas, there is a significant call for more technical exposure, exposure to industry interaction and experiential training to prepare an architecture graduate for practice.

**Table 4.13**

**The course structure effectively balances theory and practical knowledge.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 60 | 12.0 | 12.0 | 12.0 |
| | Disagree | 120 | 24.0 | 24.0 | 36.0 |
| | Neither Agree Nor Disagree | 65 | 13.0 | 13.0 | 49.0 |
| | Agree | 170 | 34.0 | 34.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.13**



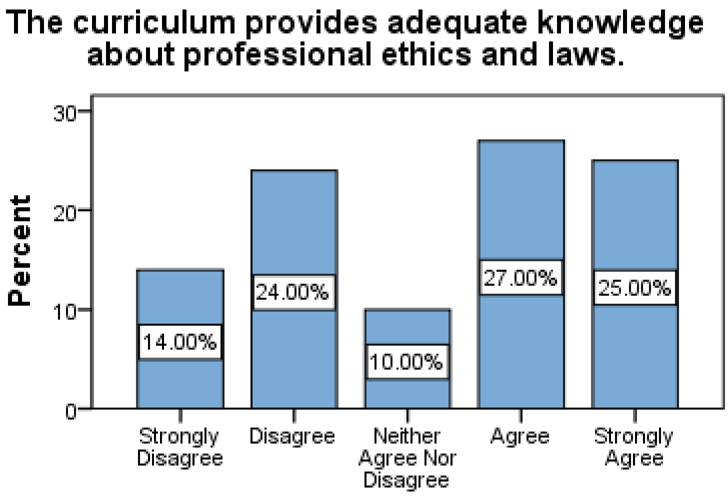

Data regarding the proportion of theory to practical knowledge in the architecture course structure shows different opinions. Whereas 34% of respondents agree and 17% strongly agree that the curriculum strikes an effective balance, we found a concerning 24% disagree, and 12% strongly disagree, suggesting that postgraduate training emphasizes either too much on theory or too little on practice. And 13% have no opinion either way. These insights inform curriculum changes that could foster better integration of theory with practice by embedding hands-on learning with industry exposure and project experiences with the theory.

**Table 4.14**

**The curriculum provides adequate knowledge about professional ethics and laws.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 120 | 24.0 | 24.0 | 38.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 48.0 |
| | Agree | 135 | 27.0 | 27.0 | 75.0 |
| | Strongly Agree | 125 | 25.0 | 25.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.14**



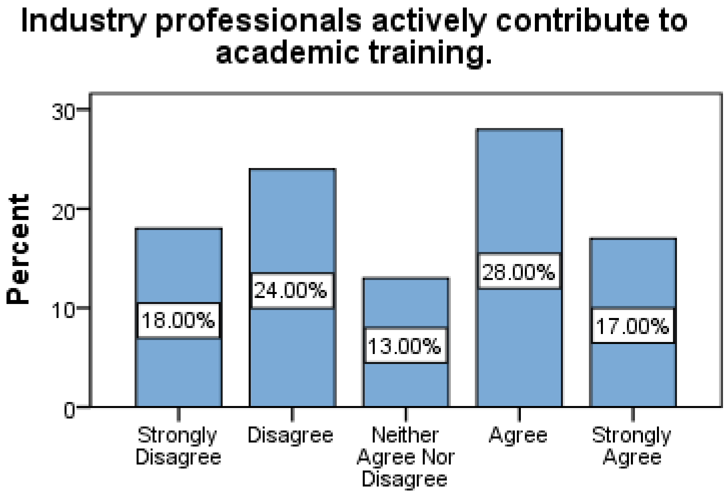

A substantive 24% disagree, and 14% strongly disagree, that the curriculum adequately addresses these topics, suggesting that significant gaps remain in legal and ethical education. Another 10% are neutral on the subject. The indication that more work is still needed here for students to understand the role of case studies and the input needed from industry leading discussions, suggests that most students understand the fundamental importance of including professional ethics and legal knowledge, but are struggling to incorporate it into practice.

**Table 4.15**

**Industry professionals actively contribute to academic training.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 120 | 24.0 | 24.0 | 42.0 |
| | Neither Agree Nor Disagree | 65 | 13.0 | 13.0 | 55.0 |
| | Agree | 140 | 28.0 | 28.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.15**



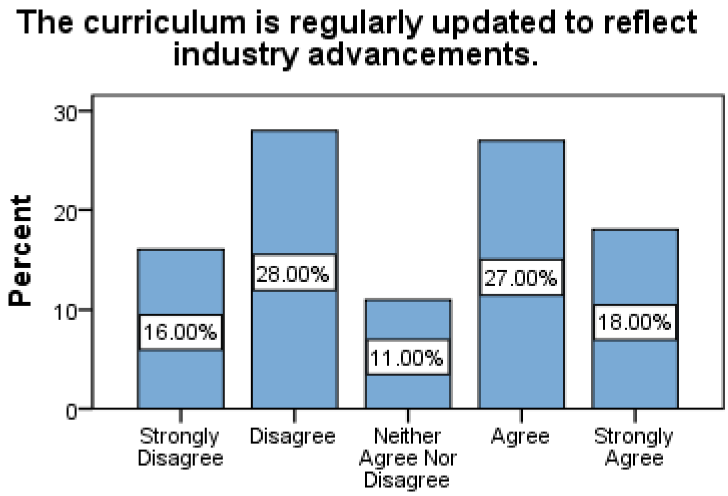

The inclusion of industry professionals in academic training processes has mixed reviews. Despite 28% of respondents feeling that industry experts are doing their part to support education and 17% strongly agreeing with that statement, 24% disagree and 18% strongly disagree, indicating that there is work to be done in terms of collaboration. And 13% are neutral, or more inconsistent with such interactions. If industries took a more active role with guest lectures, workshops, mentorship programs, and live projects, students can gain practical knowledge in the industry and learn how to apply the skills learned on campus to the demands of the professional world.

**Table 4.16**

**The curriculum is regularly updated to reflect industry advancements.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 80 | 16.0 | 16.0 | 16.0 |
| | Disagree | 140 | 28.0 | 28.0 | 44.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 55.0 |
| | Agree | 135 | 27.0 | 27.0 | 82.0 |
| | Strongly Agree | 90 | 18.0 | 18.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.16**



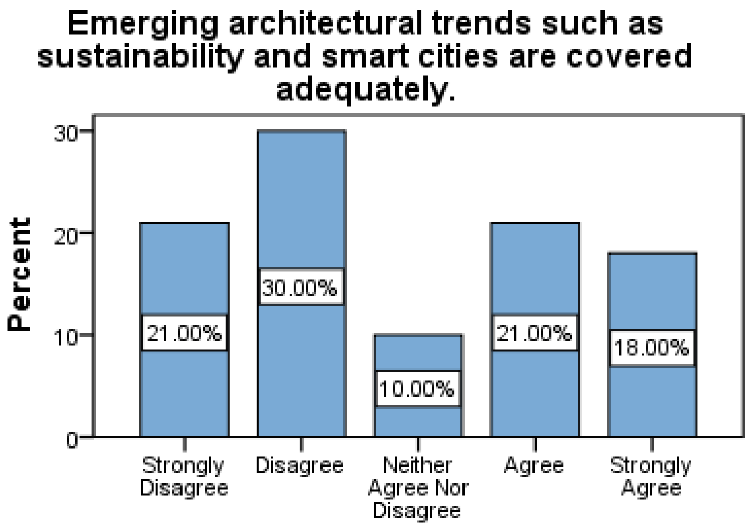

Less than half of teachers expressed that the curriculum was regularly updated to reflect industry advancements. Although 45% of respondents agree or strongly agree that the curriculum aligns with industry trends, an alarming 44% disagree or strongly disagree as well, indicating potential fears of outdated material. Another 11% are neutral. These findings reveal the importance of being more responsive in regards to curriculum changes to reflect changing industry standards and rapid advances in technology

**Table 4.17**

**Emerging architectural trends such as sustainability and smart cities are covered adequately.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 105 | 21.0 | 21.0 | 21.0 |
| | Disagree | 150 | 30.0 | 30.0 | 51.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 61.0 |
| | Agree | 105 | 21.0 | 21.0 | 82.0 |
| | Strongly Agree | 90 | 18.0 | 18.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.17**



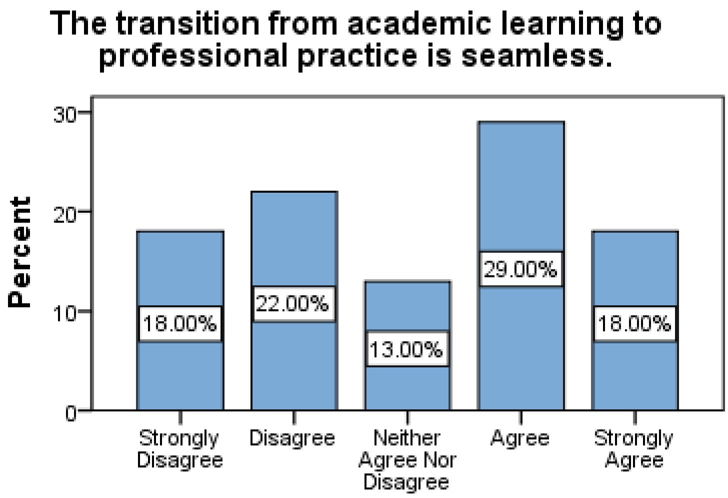

Respondents were split on whether coverage had kept pace with emerging architectural trends; for example, are we still behind on sustainability and smart cities? While 39% of respondents agree or strongly agree that these topics are well-covered, a larger proportion—51%—either disagree or strongly disagree, implying a perceived gap in the curriculum. Another 10 percent are undecided. This necessitates a greater emphasis on finding ways to streamline the information in education so that it is more representative of the trends in contemporary architecture.

**Table 4.18**

**The transition from academic learning to professional practice is seamless.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 110 | 22.0 | 22.0 | 40.0 |
| | Neither Agree Nor Disagree | 65 | 13.0 | 13.0 | 53.0 |
| | Agree | 145 | 29.0 | 29.0 | 82.0 |
| | Strongly Agree | 90 | 18.0 | 18.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.18**



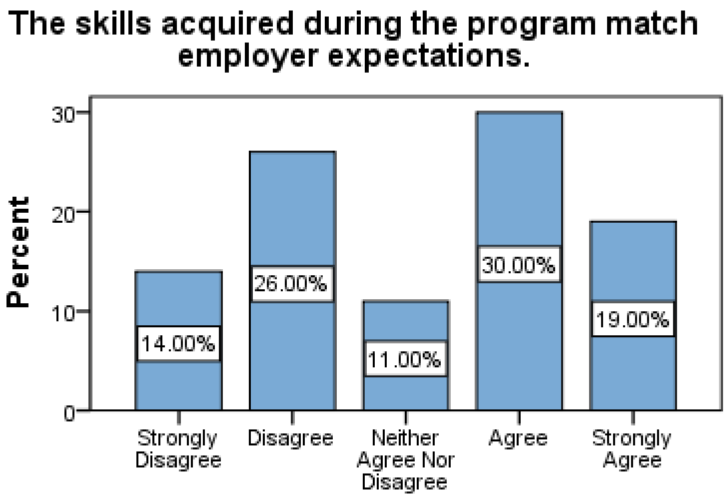

Survey Results The transition from academic to professional practice in architecture soft field is not always seamless and judging by these result might be an area for improvement. Although only 29% agree and 18% strongly agree that the transition is seamless, a large segment, 22% disagree and 18% strongly disagree, indicates that moving from academic mastery to practical capabilities is having hurdles to transverse. Another 13% are neutral, indicating that experiences may vary. These learnings highlight the area of further integrating academic and industry practices, real-life hands-on experience, training, and feedback systems to nurture students toward a professional career.

**Table 4.19**

**The skills acquired during the program match employer expectations.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 130 | 26.0 | 26.0 | 40.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 51.0 |
| | Agree | 150 | 30.0 | 30.0 | 81.0 |
| | Strongly Agree | 95 | 19.0 | 19.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.19**



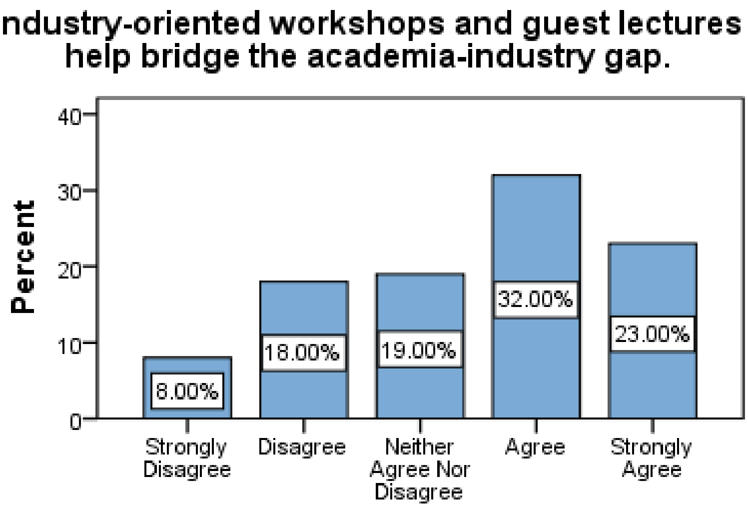

Of the general survey results, the perception is mixed as to how well the skills that have been acquired are aligned with employer expectations. 49% of respondents either indicate they agree or strongly agree that the skills learnt during the program meet industry needs; whereas 40% of respondents say they are dissatisfied; suggesting a possible academic-industry disconnect. Another 11% are neutral. Such results indicate the necessity of curriculum innovation, industry connections and/or practical training programs to equip graduates with their professional demands.

Table 4.20

**Industry-oriented workshops and guest lectures help bridge the academia-industry gap.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 8.0 | 8.0 | 8.0 |
| | Disagree | 90 | 18.0 | 18.0 | 26.0 |
| | Neither Agree Nor Disagree | 95 | 19.0 | 19.0 | 45.0 |
| | Agree | 160 | 32.0 | 32.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

Figure 4.20




The data indicates that industry-oriented workshops and guest lectures are well perceived in bridging the academia-industry gap. Notable 55% of respondents (32% Agreed, 23% Strongly Agreed) feel like these initiatives are actually helping industry alignment. But there are still indicators where 26% (8% strongly disagree, 18% disagree) feel differently, suggesting room for improvement in execution and/or access. And 19% stay neutral, indicating a degree of equivocation on their effectiveness. This were critical learnings that call for improvements in terms of the structure, frequency and relevance of such programs to drive more impact.

### 4.2.3 Impact of Curriculum Rigidity on Adaptability to Trends

In this ever-evolving education sector, specifically in architecture and design schools, new developments, trends, and technologies are increasingly shaping curriculums. Yet, Corral can be firm to adopt new curriculum models in order that see industry trends instead of pedagogical sounds; they may be blocking a very fitting skin. With prescribed courses, limited electives, and often outdated content, a rigid curriculum does not keep up with the rapid pace of technology, sustainability and digital transformation. Students have a limited choice to a specialization — for example, urban design, planning, etc. — but do not explore interdisciplinary learning, industry innovations and critical thinking skills to prepare themselves with 21st century skills needed for an evolving workforce.

Relevance is vital in architectural education, with the profession consistently making use of innovations in parametric design, artificial intelligence, virtual and augmented reality, and sustainable construction techniques. As a result, if the curricula does not teach these contemporary practices, graduates will fail to align with the industry's expectations which in turn creates a skill gap that diminishes their employability in the job market. In addition, inflexible curricula reduce opportunities for experiential learning, internships, and collaboration with industry experts — essential elements in closing the gap between theory and application.

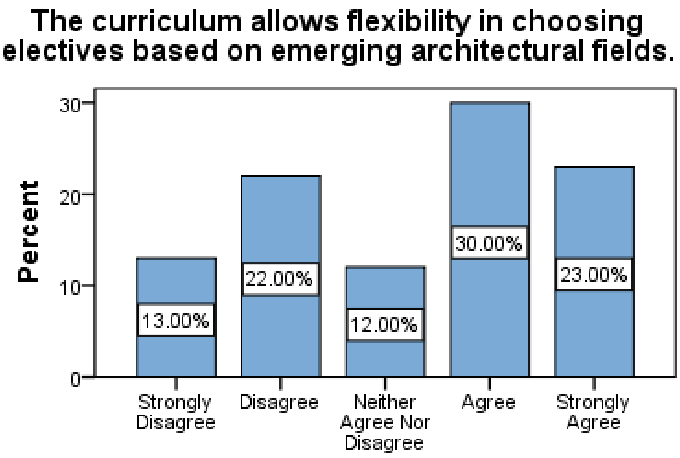
It could be easily seen that, the evolution of architectural education is stifled by this lack of flexibility in curriculum. Institutions that do not revamp their curricula will end up turning out graduates who are poorly prepared to face the demands of modern architectural practice. This stagnation may lead to decreased competitiveness in the global job market and limit innovation in the profession. In response, academia needs to adopt a fluid, skill-based approach, incorporating a flexible class structure, interdisciplinary studies, and real-world applications. In doing so, they equip students with the skills to tackle the latest trends and technological disruptions with confidence and set themselves up for long-term success in the industry.

**Table 4.21**

**The curriculum allows flexibility in choosing electives based on emerging architectural fields.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 65 | 13.0 | 13.0 | 13.0 |
| | Disagree | 110 | 22.0 | 22.0 | 35.0 |
| | Neither Agree Nor Disagree | 60 | 12.0 | 12.0 | 47.0 |
| | Agree | 150 | 30.0 | 30.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.21**



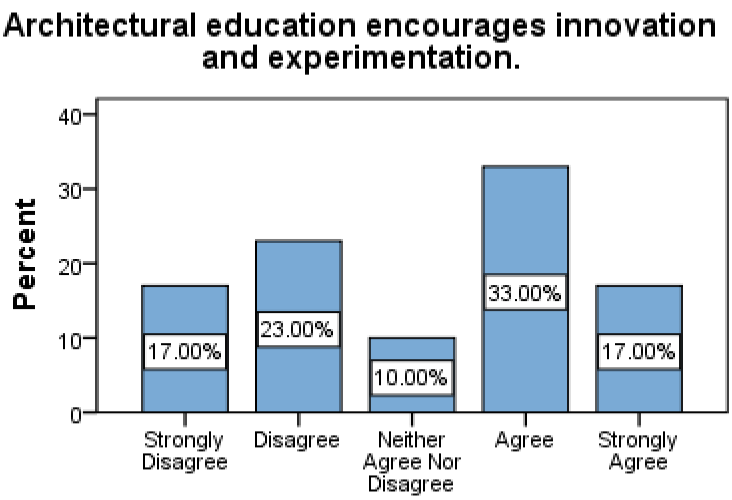

The survey data shows that, 53% respondents (30% Agree, 23% Strongly Agree) believe the curriculum offers flexibility while choosing electives based on emerging fields in architecture and 35% (22% Disagree, 13% Strongly Disagree) feel otherwise. Long story short, in what can be interpreted as uncertainty, 12% neither agreed nor disagreed. Although most of the respondents agree with the flexibility we have in electives, a notable minority disagrees — suggesting that there is scope for improvement in how closely the offerings match the emerging architectural trends.

**Table 4.22**

**Architectural education encourages innovation and experimentation.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 85 | 17.0 | 17.0 | 17.0 |
| | Disagree | 115 | 23.0 | 23.0 | 40.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 50.0 |
| | Agree | 165 | 33.0 | 33.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.22**



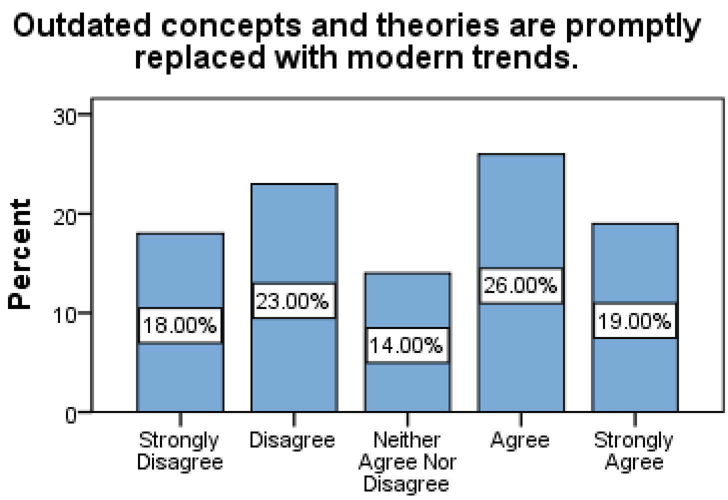

Results drawn from this survey suggest a dichotomy in the perceptions of innovation and experimentation within architectural education. At the same time, a considerable net-negative 40% of respondents reported having felt like their creativity had been curtailed by the structures of the curriculum; half (50%) agreed that the curriculum helps them be creative. Further, there was a 10% neutral response, which could reflect uncertainty with respect to the perceived intensity of innovation encouraged. This calls for a dynamic educational framework for creative thinking in architecture rather than a simple problem-based curriculum.

**Table 4.23**

**Outdated concepts and theories are promptly replaced with modern trends.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 115 | 23.0 | 23.0 | 41.0 |
| | Neither Agree Nor Disagree | 70 | 14.0 | 14.0 | 55.0 |
| | Agree | 130 | 26.0 | 26.0 | 81.0 |
| | Strongly Agree | 95 | 19.0 | 19.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.23**



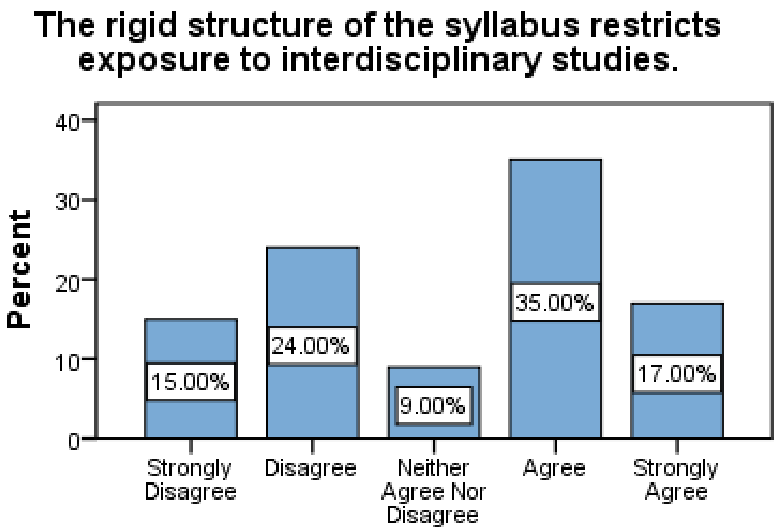

It shows that only 45% (26% Agree and 19% Strongly Agree) hold the view that obsolete concepts and theories are quickly displaced by contemporary trends, whereas 41% (23% Disagree and 18% Strongly Disagree) disagree. Note too that 14% are neutral (also suggesting some degree of uncertainty) While a good percentage recognizes updates made in the curriculum, the significant level of disagreement indicates that existing improvements can still do a better job at integrating emerging trends and advancements.

**Table 4.24**

**The rigid structure of the syllabus restricts exposure to interdisciplinary studies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 75 | 15.0 | 15.0 | 15.0 |
| | Disagree | 120 | 24.0 | 24.0 | 39.0 |
| | Neither Agree Nor Disagree | 45 | 9.0 | 9.0 | 48.0 |
| | Agree | 175 | 35.0 | 35.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.24**



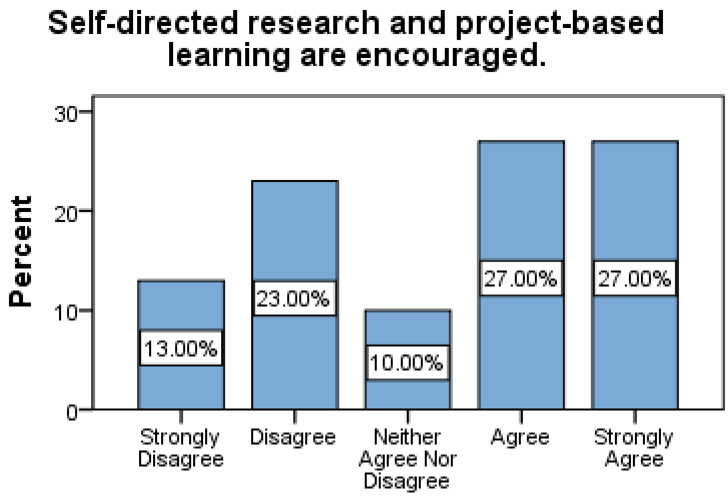

The responses indicate that the syllabus is apparently so rigid that the students feel deprived of pursuing interdisciplinary studies, with 52% agreeing to the statement that such restriction exists. In contrast, 39% of respondents disagreed: They do not see rigid syllabi as barriers to interdisciplinary learning. On the other hand, neutral issues accounted for 9% of the respondents indicating some uncertainty or (variability) in experience. These findings highlight the importance of more flexible curricula, enabling students to engage with a broader range of disciplines that complement architectural training and better prepare them for a rapidly changing landscape.

**Table 4.25**

**Self-directed research and project-based learning are encouraged.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 65 | 13.0 | 13.0 | 13.0 |
| | Disagree | 115 | 23.0 | 23.0 | 36.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 46.0 |
| | Agree | 135 | 27.0 | 27.0 | 73.0 |
| | Strongly Agree | 135 | 27.0 | 27.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.25**



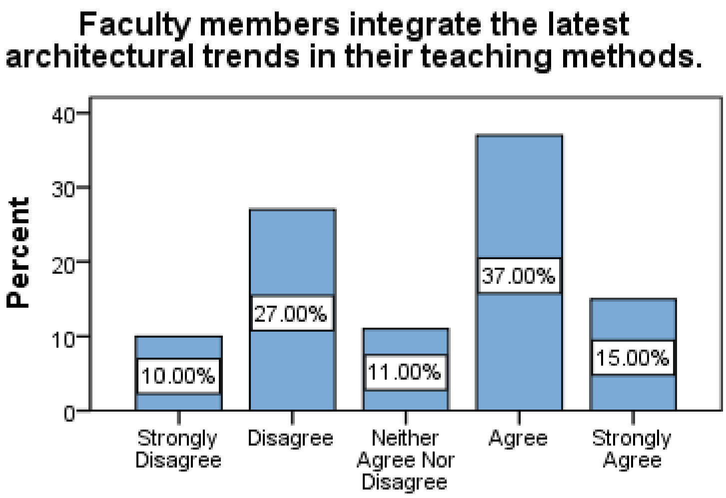

It encourages students to conduct own research and engage in projects (54% agree or strongly agree) However, 36% of respondents disagreed, indicating that substantial number of students believe there can be more work done in encouraging students take initiatives. On the other hand 10% proposed a neutral response, showing a mixed perception. Such implications suggest that there remains much potential to cultivate independent inquiry, experiential practice, and discovery for students to master practical skills such as critical thinking and problem solving in the context of professional efficacy.

Table 4.26

**Faculty members integrate the latest architectural trends in their teaching methods.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 50 | 10.0 | 10.0 | 10.0 |
| | Disagree | 135 | 27.0 | 27.0 | 37.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 48.0 |
| | Agree | 185 | 37.0 | 37.0 | 85.0 |
| | Strongly Agree | 75 | 15.0 | 15.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

Figure 4.26



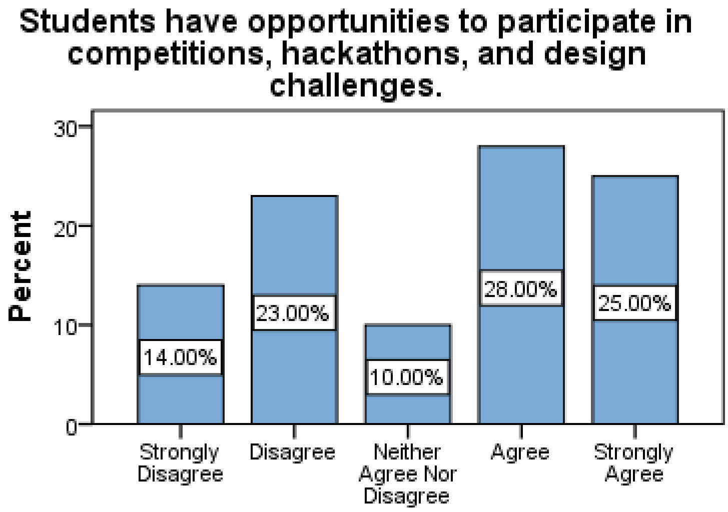

52% students want their professors to combine the latest architectural trends in teaching methods. Still, 37% of respondents disagreed, suggesting that more than one in three students believe that the latest developments in our society aren't adequately covered in the classroom. Others were neutral (11%), indicating uncertainty or mixed experiences. This mix of teaching methods appears effective despite some lag; although students feel these efforts are good examples of teaching methods adapting to modern architectural trends, they consider ongoing adaptation and enhancement highly necessary to ensure students are kept abreast with industry developments.

**Table 4.27**

**Students have opportunities to participate in competitions, hackathons, and design challenges.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 115 | 23.0 | 23.0 | 37.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 47.0 |
| | Agree | 140 | 28.0 | 28.0 | 75.0 |
| | Strongly Agree | 125 | 25.0 | 25.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.27**



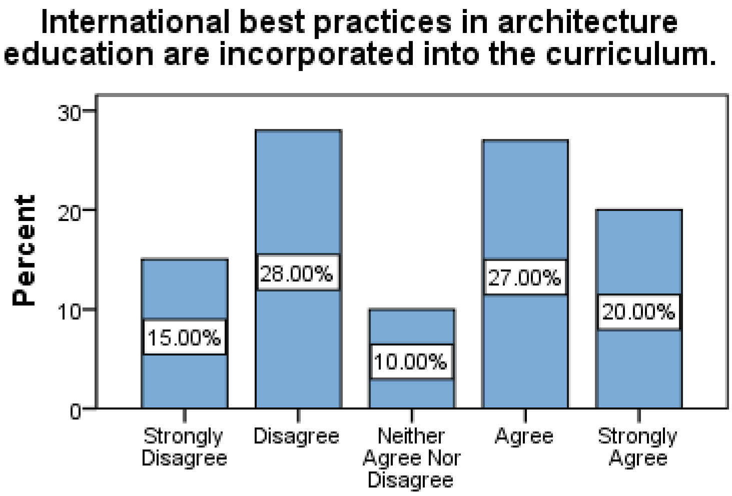

53% of the respondents agree or strongly agree, that they have been given the opportunity to participate in competitions, hackathons, and design challenges, implies the fact students have access to such events. But 37% did not agree, suggesting a large minority do not feel twinning opportunities are sufficient or made for students. However, 10% were neutral in their response, suggesting some uncertainty or lack of knowledge. These results indicate that while students are aware of competitive learning platforms, there is still much that can be done in terms of making them more inclusive and accepted.

**Table 4.28**

**International best practices in architecture education are incorporated into the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 75 | 15.0 | 15.0 | 15.0 |
| | Disagree | 140 | 28.0 | 28.0 | 43.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 53.0 |
| | Agree | 135 | 27.0 | 27.0 | 80.0 |
| | Strongly Agree | 100 | 20.0 | 20.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.28**



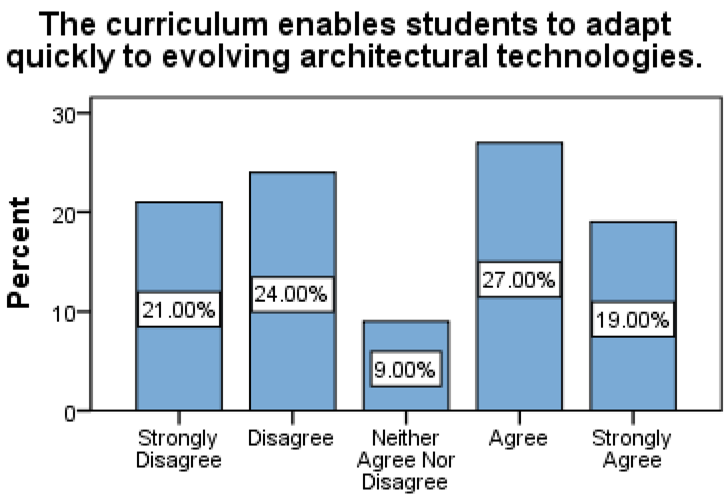

Results of the survey show that although 47% of respondents (27% Agree, 20% Strongly Agree) agree that the curriculum includes international best practices in architecture education, still a slightly larger fraction, 43% (28% Disagree, 15% Strongly Disagree), disagrees. Also, 10% neither agree nor disagree, which suggests some ambiguity. Implying that while the curriculum is being aligned with global benchmarks, further enhancements are needed to meet the international benchmarks holistically.

**Table 4.29**

**The curriculum enables students to adapt quickly to evolving architectural technologies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 105 | 21.0 | 21.0 | 21.0 |
| | Disagree | 120 | 24.0 | 24.0 | 45.0 |
| | Neither Agree Nor Disagree | 45 | 9.0 | 9.0 | 54.0 |
| | Agree | 135 | 27.0 | 27.0 | 81.0 |
| | Strongly Agree | 95 | 19.0 | 19.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.29**



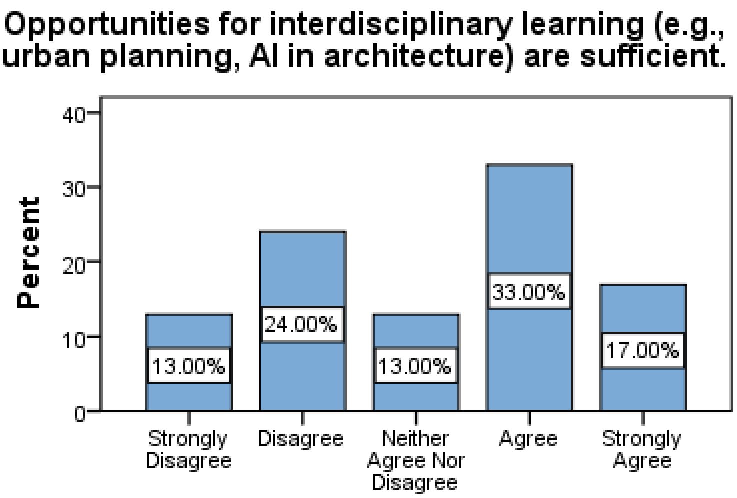

Forty-six percent (27% Agree, 19% Strongly Agree) of the survey respondents believe that the curriculum equips students to quickly transform in response to emerging architectural technologies. Yet an increased proportion 45% (24% Disagree, 21% Strongly Disagree) disagrees, suggesting fears about whether the curriculum is keeping up with technological changes. 9% say neutral, indicating mixed opinions among respondents on how well the curriculum is adapting to changes in emerging technologies within architecture.

**Table 4.30**

**Opportunities for interdisciplinary learning (e.g., urban planning, AI in architecture) are sufficient.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 65 | 13.0 | 13.0 | 13.0 |
| | Disagree | 120 | 24.0 | 24.0 | 37.0 |
| | Neither Agree Nor Disagree | 65 | 13.0 | 13.0 | 50.0 |
| | Agree | 165 | 33.0 | 33.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.30**




50% respondent (33% Agree and 17% Strongly agree) agree that interdisciplinary learning (urban planning, AI in architecture, etc.) is present. This implies that the curriculum is supportive of cross-disciplinary exposure for many students. In contrast, 37% disagreed, indicating that this type of learning may not be widely available. Another 13% had no opinion, suggesting uncertainty or a range of experience. This indicates an opportunity for building on interdisciplinary courses and partnerships so that the students are equipped for the collaborative nature of contemporary design.

#### 4.2.4 Effectiveness of Practical Training and Skill Development

Especially in professional and technical subject areas such as architecture, engineering, and design, practical training and skill development are essential in preparing students for real-world challenges. Practical training, as opposed to purely theoretical learning, creates a link between what students learn in theory and what they do in real life, improving their problem-solving skills, technical skills, and flexibility. Students gain insights into industry standards, emerging technologies, and best practices, helping them better prepare to tackle professional responsibilities after graduation through hands-on experience.

Skill development is particularly important in the field of architecture, where proficiency in specialized tools is critical — CAD, parametric modeling, BIM, and sustainable construction methods. In the absence of industry exposure to these skills in the workplace, students can struggle to meet industry expectations, which can cripple their employability and overall career prospects. Sector-specific skills learning necessitates on-site live internships, and live projects, visits to the project site as well as collaboration with industries to ensure that students gain exposure to the lifecycle of a project from client meetings to management, administrative work, and construction. These experiences foster creativity, innovation, and efficiency, all crucial components to moving forward in career.

In addition, by imparting practical training, students understand changes and learn to adapt when facing challenges in technology and market development. It also develops students' teamwork, communication, and leadership skills as they engage in team projects, simulations, and case studies. From high-quality alumni to industry modernization, skill-based institutions contribute towards more than just capable graduates.

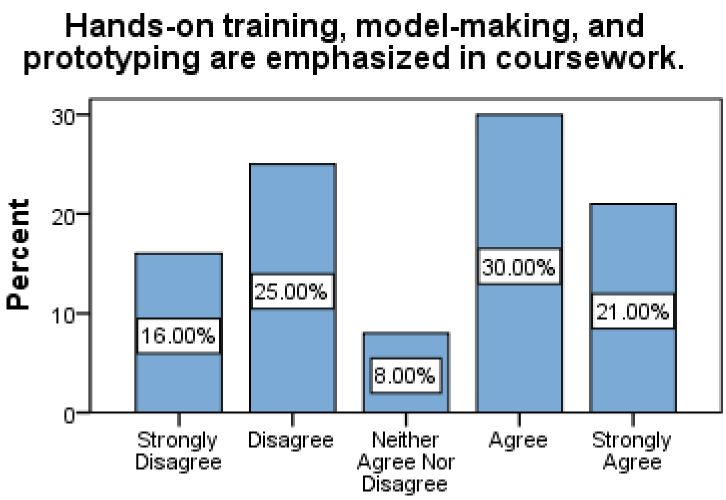
Real-world experience will always ensure that we have the tools, infrastructure, models, and collaborative relationships needed to facilitate effective training. With this balance between theory and practice, students are better prepared to not just have knowledge but also implement that knowledge in ever changing and demanding professional environments.

**Table 4.31**

**Hands-on training, model-making, and prototyping are emphasized in coursework.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 80 | 16.0 | 16.0 | 16.0 |
| | Disagree | 125 | 25.0 | 25.0 | 41.0 |
| | Neither Agree Nor Disagree | 40 | 8.0 | 8.0 | 49.0 |
| | Agree | 150 | 30.0 | 30.0 | 79.0 |
| | Strongly Agree | 105 | 21.0 | 21.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.31**



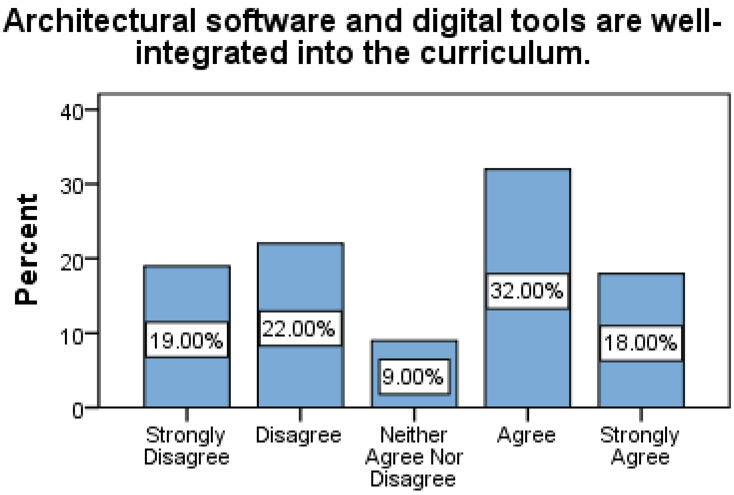

51% of students agree or strongly agree that their coursework emphasizes hands-on training, model-making and prototyping, suggesting that a healthy belt of students finds practical applications woven into their education. Yet, 41% disagreed, implying a significant number would argue that the curriculum does not sufficiently address these components. Another 8% were neutral, demonstrating varied opinions. Such a gap indicates a need to  expand practical learning opportunities, ensuring students are receiving the hands-on training that is key to successful architectural practice.

**Table 4.32**

**Architectural software and digital tools are well-integrated into the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 95 | 19.0 | 19.0 | 19.0 |
| | Disagree | 110 | 22.0 | 22.0 | 41.0 |
| | Neither Agree Nor Disagree | 45 | 9.0 | 9.0 | 50.0 |
| | Agree | 160 | 32.0 | 32.0 | 82.0 |
| | Strongly Agree | 90 | 18.0 | 18.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.32**



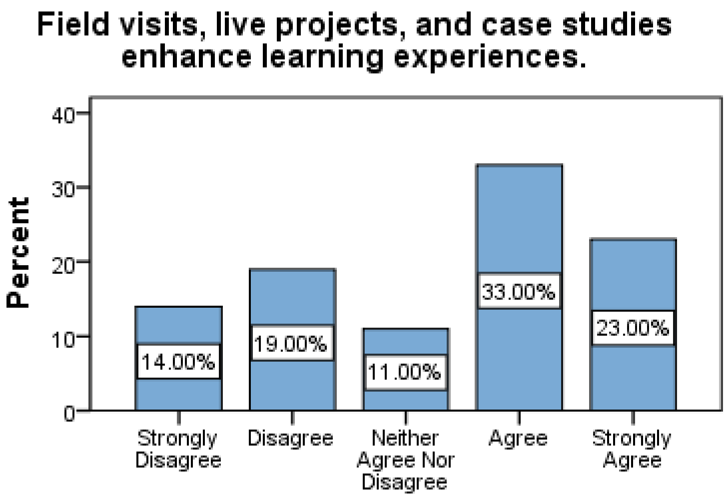

The survey data show that half of students agree or strongly agree architectural software and digital tools are integrated into the curriculum, which implies that many students are satisfied with technological integration. Yet 41% disagreed suggesting a significant number feel there is much more room to integrate devices into their education. In addition, 9% felt neutral, indicating mixed sentiment. So, while perhaps well-intentioned in questioning which software should be taught, these findings also raise questions of how adequately schools are preparing students to both learn and use these platforms to help shape our future physical and communal environments.

**Table 4.33**

**Field visits, live projects, and case studies enhance learning experiences.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 95 | 19.0 | 19.0 | 33.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 44.0 |
| | Agree | 165 | 33.0 | 33.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.33**



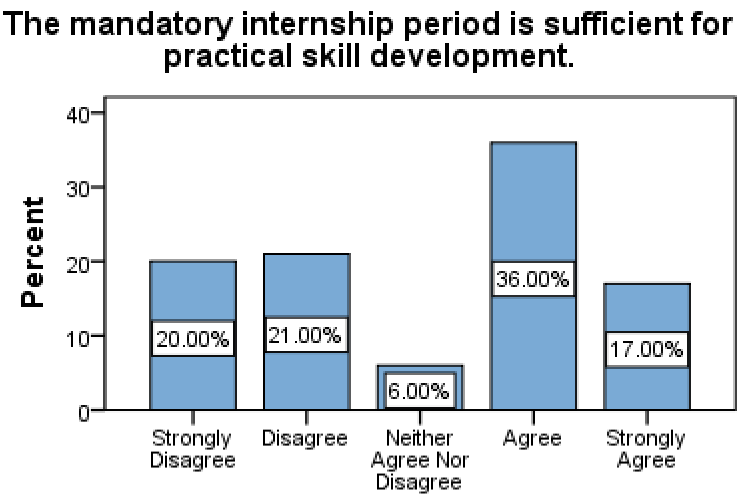

Respondents (56%) stated strongly agree/agree towards field visits, live projects and case studies enhance their learning experience, which also shows these practice based cases help in architectural education. But, one third of students disagreed with this point indicating there may be limits to the frequency, availability or effectiveness of these opportunities. Moreover, as many as 11% students were indifferent, so experiences differ. These results demonstrate the need to reinforce the experiential learning culture in the educational framework so all students could have the advantage of real-world exposure during their architecture training.

**Table 4.34**

**The mandatory internship period is sufficient for practical skill development.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 100 | 20.0 | 20.0 | 20.0 |
| | Disagree | 105 | 21.0 | 21.0 | 41.0 |
| | Neither Agree Nor Disagree | 30 | 6.0 | 6.0 | 47.0 |
| | Agree | 180 | 36.0 | 36.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.34**



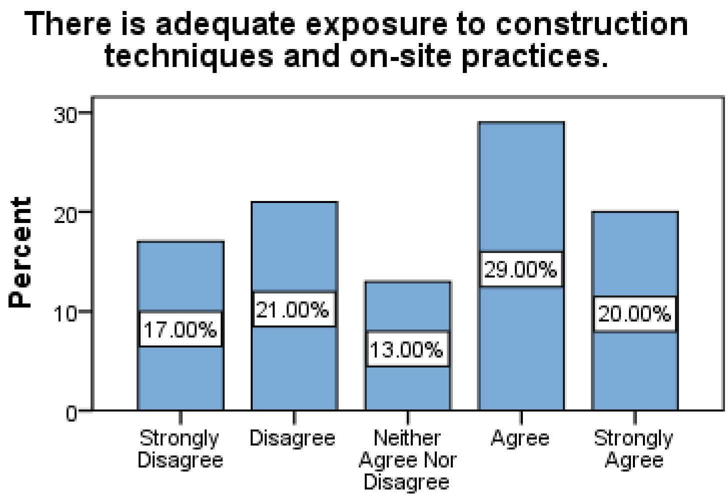

According to the survey, 53% said they resonate or strongly resonate with the assertion that the compulsory internship period is adequate to guide them on practical abilities—which again shows a relatively positive substantive opinion from over half of the students sampled. But a large number (41per cent) say they disagree or strongly disagree, suggesting they are worried about the length, format or impact of the internship on offering adequate hands-on experience. Six percent remained neutral, representing mixed opinions. These findings show that there is a need for review, and possibly a change in the internship program to better satisfy the students' need for practical learning.

**Table 4.35**

**There is adequate exposure to construction techniques and on-site practices.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 85 | 17.0 | 17.0 | 17.0 |
| | Disagree | 105 | 21.0 | 21.0 | 38.0 |
| | Neither Agree Nor Disagree | 65 | 13.0 | 13.0 | 51.0 |
| | Agree | 145 | 29.0 | 29.0 | 80.0 |
| | Strongly Agree | 100 | 20.0 | 20.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.35**



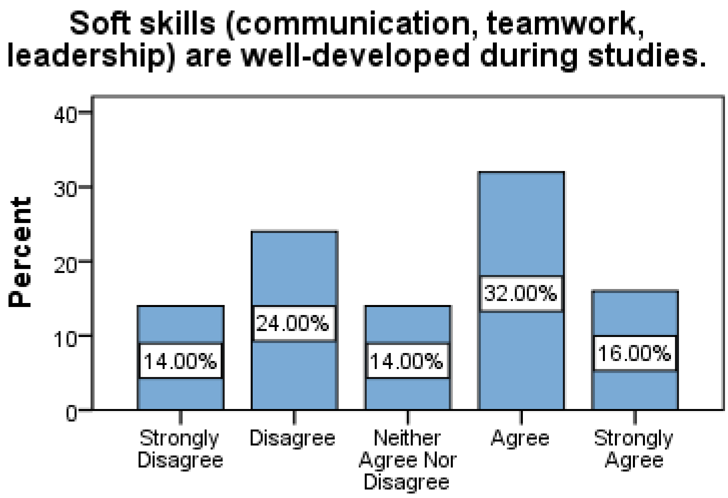

The survey results also show that almost half of students 49% agree or strongly agree to adequate exposure to construction techniques and on-site practices. But 38% disagree or strongly disagree that allowing students to do practical work covers the practical exposure needed at school, which means that a reasonable number of people feel we aren't delivering the right level of exposure on the ground. Furthermore, 13% among its users are neutral, indicating unknowns or diversity of positions. The results indicate that more experiential learning might be necessary in order to orient construction knowledge more toward students' success in the field.

**Table 4.36**

**Soft skills (communication, teamwork, leadership) are well-developed during studies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 120 | 24.0 | 24.0 | 38.0 |
| | Neither Agree Nor Disagree | 70 | 14.0 | 14.0 | 52.0 |
| | Agree | 160 | 32.0 | 32.0 | 84.0 |
| | Strongly Agree | 80 | 16.0 | 16.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.36**



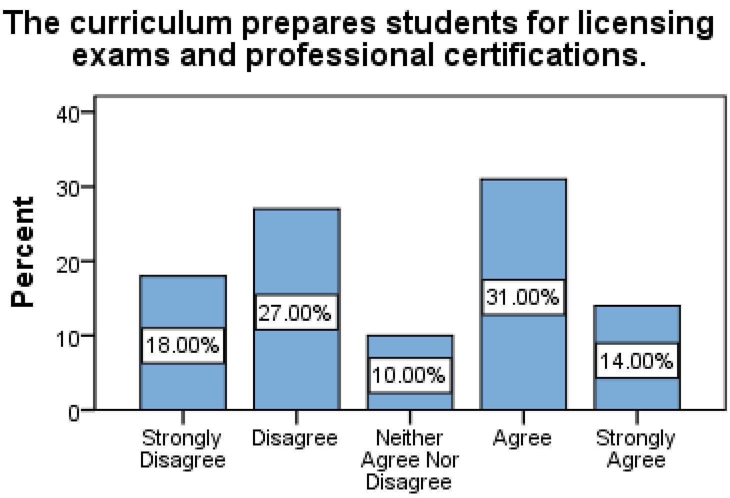

About 48% of students report agree or strongly agree to study supports soft skills development including communication and teamwork and leadership. However, the 38% who disagree or strongly disagree indicates a major concern that soft skills training is effective in the curriculum. Moreover, 14% are indifferent, meaning that they have had good and bad experiences. However, the survey indicates that there is potential for growth: While most students said they had opportunities to build soft skills, having structured activities or training programs to enhance those skills could better facilitate students' development.

**Table 4.37**

**The curriculum prepares students for licensing exams and professional certifications.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 135 | 27.0 | 27.0 | 45.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 55.0 |
| | Agree | 155 | 31.0 | 31.0 | 86.0 |
| | Strongly Agree | 70 | 14.0 | 14.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.37**



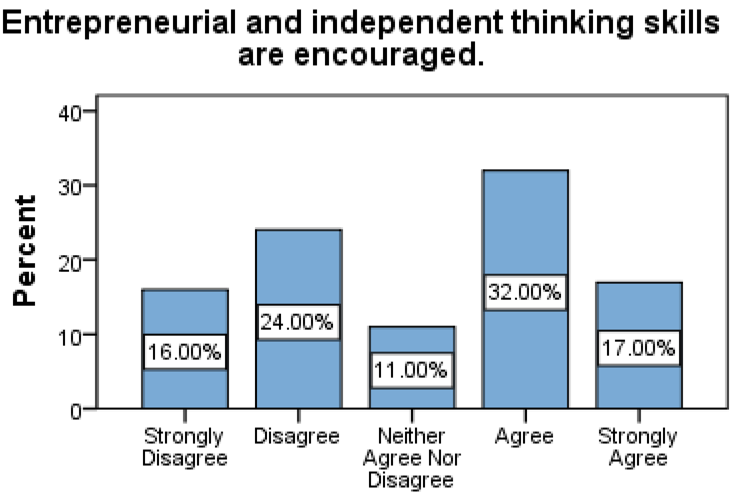

The survey indicates that out of the total respondents, 45% believe (31% Agree, 14% Strongly Agree) the curriculum prepares students well for licensing exams/professional certifications. However, there are a significant 45% (27% Disagree, 18% Strongly Disagree) who feel the same is not true of the programme, signalling a  concern regarding its efficacy in this area. At the same time, 10% choose neutral, perhaps indicating mixed feelings on how well the curriculum matches the requirements for professional certification.

**Table 4.38**

**Entrepreneurial and independent thinking skills are encouraged.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 80 | 16.0 | 16.0 | 16.0 |
| | Disagree | 120 | 24.0 | 24.0 | 40.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 51.0 |
| | Agree | 160 | 32.0 | 32.0 | 83.0 |
| | Strongly Agree | 85 | 17.0 | 17.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.38**



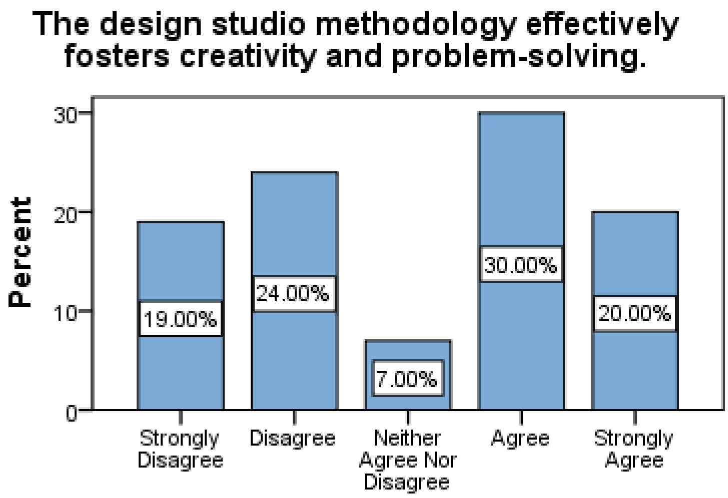

49% of students agree or strongly agree that the curriculum promotes entrepreneurial and independent thinking skills but 40 percent do not agree or disagree, indicating that for many students, they do not feel these skills are sufficiently cultivated. Moreover, 11% are neutral, which suggests some indecision and conflicting experiences. Such findings can be seen as indications for improvement; for example, more entrepreneurship-based courses, mentorship, startup incubation support, and a focus on real-world problem-solving can be integrated into such institutions to increase independent thought processes.

**Table 4.39**

**The design studio methodology effectively fosters creativity and problem-solving.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 95 | 19.0 | 19.0 | 19.0 |
| | Disagree | 120 | 24.0 | 24.0 | 43.0 |
| | Neither Agree Nor Disagree | 35 | 7.0 | 7.0 | 50.0 |
| | Agree | 150 | 30.0 | 30.0 | 80.0 |
| | Strongly Agree | 100 | 20.0 | 20.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.39**



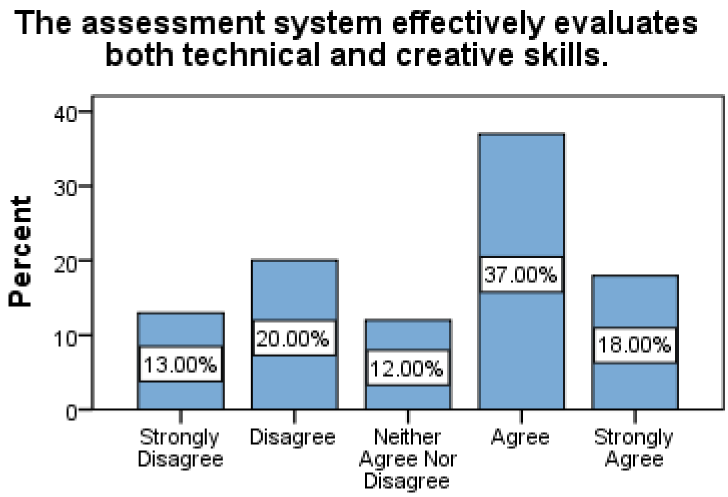

The data is further represented in the survey, with 50% students agreeing or strongly agreeing that the design studio methodology effectively promotes creativity and problem solving. Yet, a whopping 43% of students disagree or strongly disagree, indicating that nearly half of responders think the methodology could improve. Moreover, as many as 7% stay undecided with mixed feelings. It may also be advisable to increase focus on design process learning opportunities (design challenges, peer coaching, and collaborative learning) as well as their application, verification and validation practical experiences.

**Table 4.40**

**The assessment system effectively evaluates both technical and creative skills.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 65 | 13.0 | 13.0 | 13.0 |
| | Disagree | 100 | 20.0 | 20.0 | 33.0 |
| | Neither Agree Nor Disagree | 60 | 12.0 | 12.0 | 45.0 |
| | Agree | 185 | 37.0 | 37.0 | 82.0 |
| | Strongly Agree | 90 | 18.0 | 18.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.40**




60% of students agree or strongly agree that the assessment system assesses technical and creative skills. A further 33% disagree or strongly disagree that the system as it stands adequately reflects both skill sets, suggesting there remains a substantial proportion of students who feel as though the assessment system is not adequately capturing both skill sets. Another 12% are undecided, suggesting some uncertainty or mixed views.

These responses point both to a need to improve assessment methods, perhaps via more diverse forms of evaluation, like project-based assessments, peer assessment, industry expert assessments, and solutions to real-world problems, in order to ensure balance between proficiencies in the technical skills required and those relevant to the creative industries.

### 4.2.5 Challenges in Adopting Modern Technologies in Architectural Education:

The adoption of modern technologies for architectural education holds great promise for increasing learning outcomes and professional preparedness, but there are challenges. The integration of advanced digital tools like Building Information Modelling (BIM), parametric design software, virtual reality (VR), and artificial intelligence (AI) demands substantial infrastructural investments, technical know-how, and alterations to the curriculum. A lack of machines in many institutions, particularly in developing regions, restricts practical exposure for students to the latest technology as well as industry-standard tools.

Another big issue is faculty preparedness, with some educators perhaps lacking adequate training on the most recent digital advancements. In the absence of continued professional development, it can be difficult for instructors to teach newly emerging technologies effectively, leading to a skills gap between academia and industry expectations. Moreover, students are forced to constantly keep pace with evolving software and other digital workflows when their basic courses continue to teach more traditional design methods and do not integrate technology.

Another factor stalling the adoption of modern technologies is the resistance to change so common in academic institutions. A lot of architecture programs continue to stress traditional hand-drawing methods and manual modeling, regarding digital tools as useful but not critical. Due to this traditional method, it may take longer for our students to develop digital fluency, which can be a disadvantage as they enter an increasingly competitive job market.

In addition, data and technology are impacting architectural education in response to an interdisciplinary approach necessitating collaboration between architecture, engineering, computer science, and data analytics. Yet, compartmentalised curricula frequently fail to prepare students with the breadth of skills necessary to succeed in contemporary architectural practice.

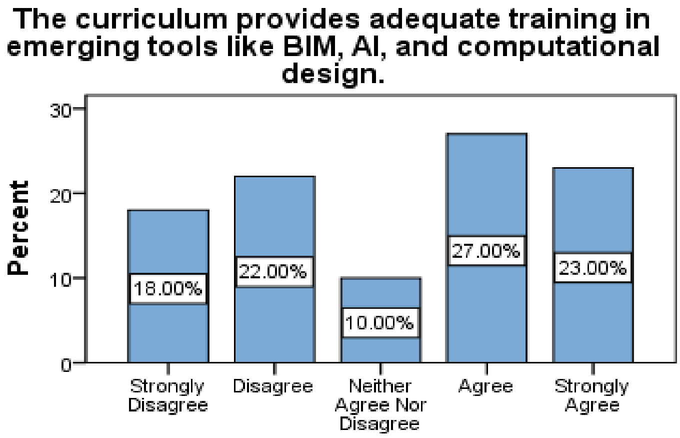
In order to meet these challenges, institutions need to invest in digital infrastructure, provide training programs to faculty, and modernize curricula to incorporate traditional principles with innovations. Architectural education can prepare students for the shifting requirements of the profession by encouraging a culture of innovation and adaptability.

**Table 4.41**

**The curriculum provides adequate training in emerging tools like BIM, AI, and computational design.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 110 | 22.0 | 22.0 | 40.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 50.0 |
| | Agree | 135 | 27.0 | 27.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.41**




Indeed, the survey response shows that 50% of students agree or strongly agree with the statement 'The curriculum in my school adequately exposes me to upcoming tools (e.g., BIM, AI, computational design)'. Only 60% agree or strongly agree with the statement, so a full 40% of respondents disagree or strongly disagree, indicating a large proportion of students feel that they are not receiving enough training on these subjects. A further 10% are neutral which demonstrates some ambiguity or differences in experiences over time.

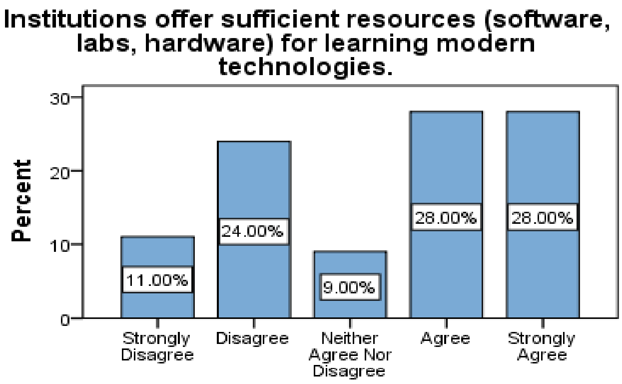
Such feedback indicates the curriculum may be missing the bolt on some new-age digital tools. The existing gap could be addressed by augmenting the curriculum with more hands-on learning experiences, specialized cross-disciplinary workshops, partnerships with the industry, or professional certifications in new technologies like BIM platforms, AI-driven design tools, and computational design methods.

**Table 4.42**

**Institutions offer sufficient resources (software, labs, hardware) for learning modern technologies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 55 | 11.0 | 11.0 | 11.0 |
| | Disagree | 120 | 24.0 | 24.0 | 35.0 |
| | Neither Agree Nor Disagree | 45 | 9.0 | 9.0 | 44.0 |
| | Agree | 140 | 28.0 | 28.0 | 72.0 |
| | Strongly Agree | 140 | 28.0 | 28.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure – 4.42**




For question 3 - the survey results show 53.31% of all the students said the institutions are providing adequate resources (software, labs, hardware) for learning the modern technologies. Nonetheless, 35% of those polled disagree or strongly disagree, a reflection of worries about the sufficiency of the resources available. Another 9% are neutral, which implies mixed experiences among students.

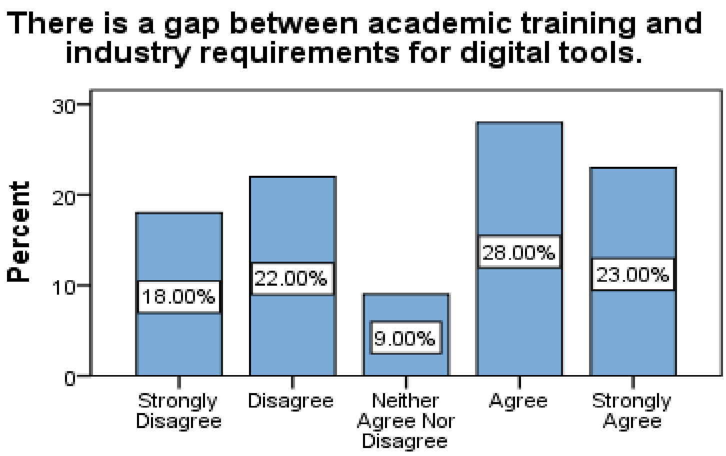
The majority of students find the resources acceptable, but a considerable percentage suggests that improvements are needed. Institutions may also require assessing their technological infrastructure, keeping software and hardware in good shape, and providing institutions with greater accessibility to labs and digital tools. By expanding resources, modernising facilities, and providing practical-focused training, students would derive better value.

**Table 4.43**

**There is a gap between academic training and industry requirements for digital tools.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 110 | 22.0 | 22.0 | 40.0 |
| | Neither Agree Nor Disagree | 45 | 9.0 | 9.0 | 49.0 |
| | Agree | 140 | 28.0 | 28.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.43**



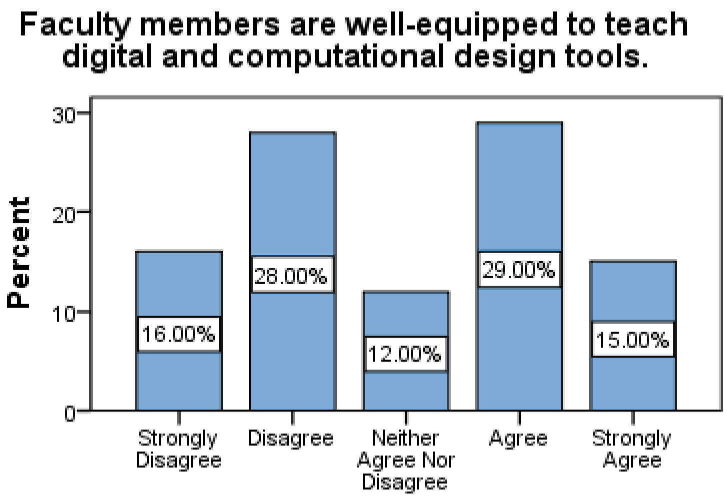

Survey findings show division over the gap between preparation and need regarding digital tools. And while more than half of those surveyed (28% agree and 23% strongly agree) consider there to be disconnect between the digital skills they learn and what industry demands, a significant minority (18% strongly disagree and 22% disagree) do not feel this is the case. It  is also worth highlighting that 9% remain neutral indicating some uncertainty or mixed experiences. These insights emphasize the importance of a  closer alignment between academics and the practical, evolving needs of the architectural industry, especially with regards to the use of digital tools and technologies.

**Table 4.44**

**Faculty members are well-equipped to teach digital and computational design tools.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 80 | 16.0 | 16.0 | 16.0 |
| | Disagree | 140 | 28.0 | 28.0 | 44.0 |
| | Neither Agree Nor Disagree | 60 | 12.0 | 12.0 | 56.0 |
| | Agree | 145 | 29.0 | 29.0 | 85.0 |
| | Strongly Agree | 75 | 15.0 | 15.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure – 4.44**



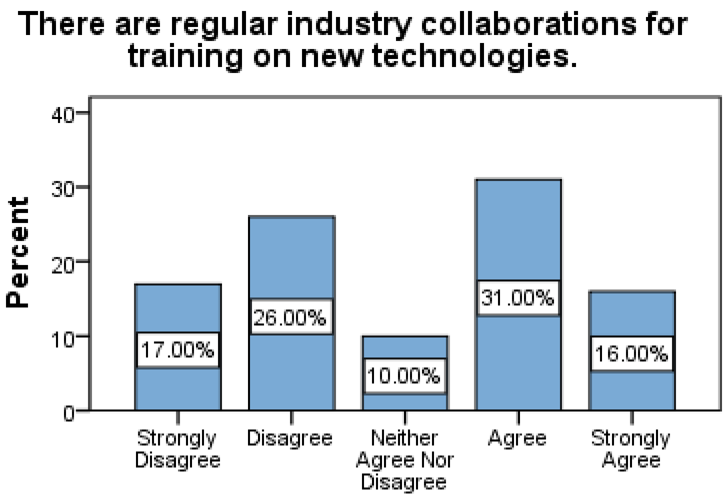
Results of the survey indicate that only 44% of survey respondents (29% Agree, 15% Strongly Agree) feel that faculty members have the necessary skills, tools, and experience with relevant digital and computational design methodologies to effectively teach design tools, while a substantial 44% (28% Disagree, 16% Strongly Disagree) disagree. Another 12% are neutral, suggesting a split in views on faculty expertise in these domains.

**Table 4.45**

**There are regular industry collaborations for training on new technologies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 85 | 17.0 | 17.0 | 17.0 |
| | Disagree | 130 | 26.0 | 26.0 | 43.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 53.0 |
| | Agree | 155 | 31.0 | 31.0 | 84.0 |
| | Strongly Agree | 80 | 16.0 | 16.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure - 4.45**




However, training in these emerging technologies through partnerships with industry is reported somewhat patchy according to survey results. Although

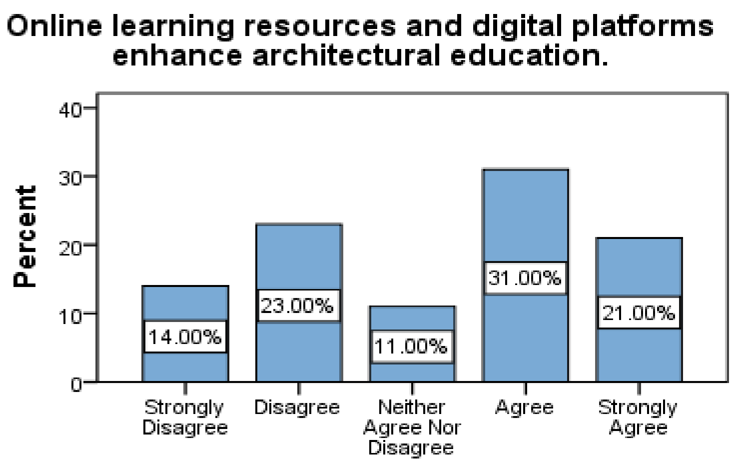
47% (31% agree, 16% strongly agree) think such partnerships are common, a large 43% (26% disagree, 17% strongly disagree) find them wanting. While 10% neither agree nor disagree, indicating some uncertainty. This could indicate that although certain organizations have closely-knit connections or partnerships with corporations to work on up and coming technology, for the rest of the institutions there are still improvements to be made in certifying that in these changes are widespread and precise for students to gain experience in emerging technologies. Workshops, guest lectures and hands-on training can help universities supplement their curriculum and strengthen ties with industry players.

**Table 4.46**

**Online learning resources and digital platforms enhance architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 115 | 23.0 | 23.0 | 37.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 48.0 |
| | Agree | 155 | 31.0 | 31.0 | 79.0 |
| | Strongly Agree | 105 | 21.0 | 21.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.46**




These results imply that online learning and/or digital platforms are relevant in architectural teaching, with opinions being somewhat divided. Although a majority (52%) agree or strongly agree that these resources enhance learning, a sizable segment (37%) disagree or strongly disagree as to their effectiveness, suggesting that digital platforms are not a panacea or universally accessible. Eleven percent are neutral, indicating a little uncertainty.

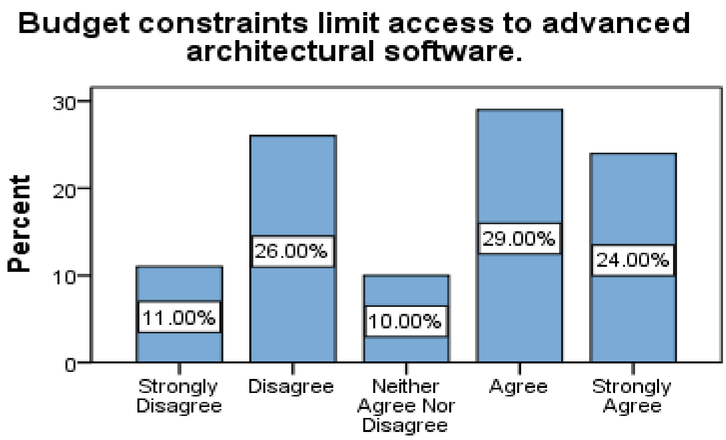
This signifies that there are palm leaves on institutions for the best integration of digital tools in their processes and for full accessibility, engagement, and relevance to architectural teaching. Focusing on interactive learning styles, personalized digital content, and blended learning types may deter discrepancies in perceptiveness and efficacy.

**Table 4.47**

**Budget constraints limit access to advanced architectural software.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 55 | 11.0 | 11.0 | 11.0 |
| | Disagree | 130 | 26.0 | 26.0 | 37.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 47.0 |
| | Agree | 145 | 29.0 | 29.0 | 76.0 |
| | Strongly Agree | 120 | 24.0 | 24.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.47**




Access to advanced architectural software is limited by budget constraints according to the survey. 53% of respondents agree or strongly agree that their budgets prevent them from utilizing premium applications, reinforcing the idea that cost is a primary hurdle facing architectural education. On the other hand, 37% disagree or strongly disagree, suggesting that some institutions or individuals may not be bound by these constraints as much.

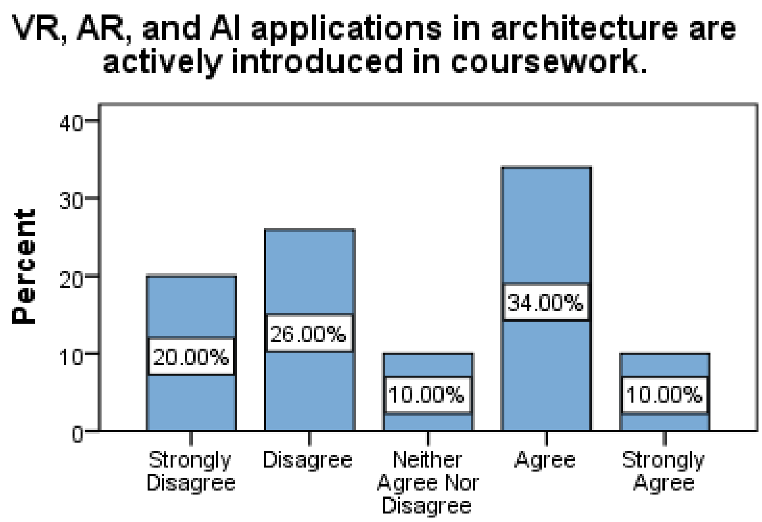
While remaining neutral also came in at 10%, the data reinforces institutions need to look into cost-effective solutions such as open-source software, student licensing programs, or more funds for online resources. A close collaboration with software providers and a partnership with the industry could also help close this availability gap.

**Table 4.48**

**VR, AR, and AI applications in architecture are actively introduced in coursework.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 100 | 20.0 | 20.0 | 20.0 |
| | Disagree | 130 | 26.0 | 26.0 | 46.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 56.0 |
| | Agree | 170 | 34.0 | 34.0 | 90.0 |
| | Strongly Agree | 50 | 10.0 | 10.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.48**



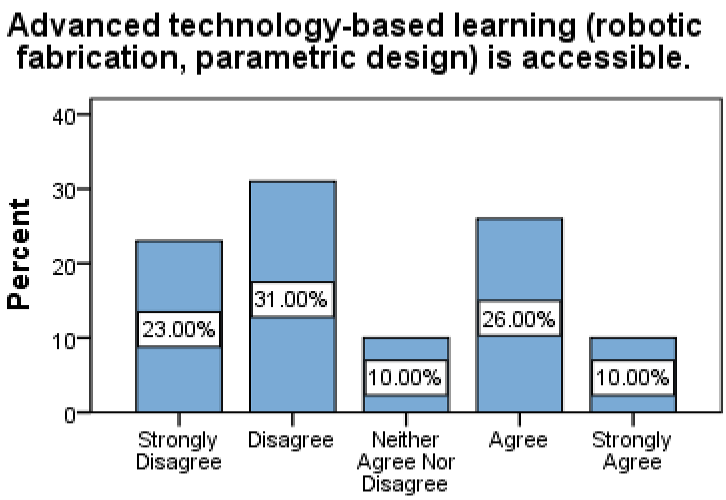
While 44% of the respondents acknowledge (34% Agree, 10% Strongly Agree) the active introduction of VR, AR and AI applications in architecture coursework, a significant majority, 46% disagree (26% Disagree, 20% Strongly Disagree). Further, 10% stay neutral on the matter, indicating the perception of integrating these emerging technologies in the curriculum is mixed.

**Table 4.49**

**Advanced technology-based learning (robotic fabrication, parametric design) is accessible.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 115 | 23.0 | 23.0 | 23.0 |
| | Disagree | 155 | 31.0 | 31.0 | 54.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 64.0 |
| | Agree | 130 | 26.0 | 26.0 | 90.0 |
| | Strongly Agree | 50 | 10.0 | 10.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.49**



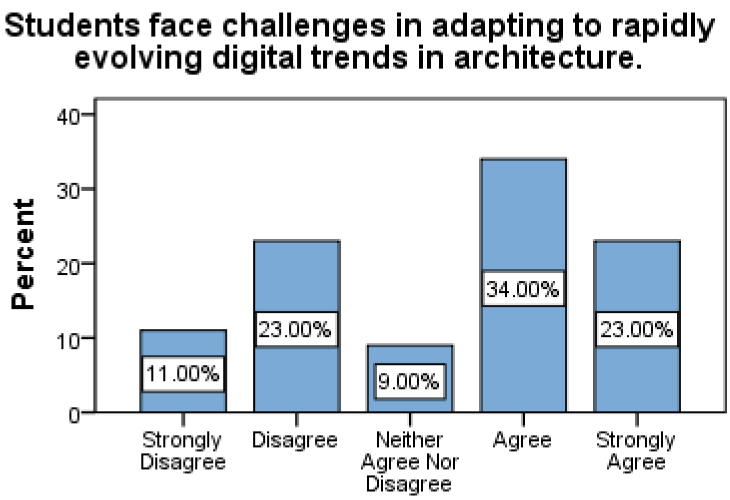
Survey results indicate that 36% (26% Agree, 10% Strongly Agree) of respondents find advanced technology-based learning (including robotic fabrication and parametric design) accessible; however, a significant 54% (31% Disagree, 23% Strongly Disagree) do not. Another 10% are neutral, which indicates that access to such learning tools continues to be an issue for a significant percentage of students.

**Table 4.50**

**Students face challenges in adapting to rapidly evolving digital trends in architecture.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 55 | 11.0 | 11.0 | 11.0 |
| | Disagree | 115 | 23.0 | 23.0 | 34.0 |
| | Neither Agree Nor Disagree | 45 | 9.0 | 9.0 | 43.0 |
| | Agree | 170 | 34.0 | 34.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.50**



This indicates that a majority of them (57 % - Agree + Strongly Agree) find it a challenge to adapt to this ever-changing environment, letting one think of an area that stills need formal classroom based learning, practical hands-on experience or maybe an access to the goods and bads of the industry.

It could also reflect different levels of digital literacy in students, seeing that 34% (Disagree + Strongly disagree) say they do not face this type of challenge. With the 9% neutral, it's possible some students don't know how digital trends affect their learning.

It is assumed that by introducing more upskilling programs, updating curriculum continuously, and fostering stronger collaboration with the industry they can also solve this issue.

### 4.2.6 Role of NEP 2020 in Curriculum Restructuring:

The National Education Policy (NEP) 2020 has ushered a significant change in bringing about a transformational restructuring of the curriculum, cutting across diverse fields of study. Though it is yet to be adopted in Architecture education, it is important to study its anticipated impact and potential expectation with reference to Architectural Profession. With a focus on enhancing flexibility, interdisciplinary learning, as well as skill-based education, NEP 2020 wishes to merge the gap between the standard pedagogical methods and the industry-oriented needs of the present day. The policy replaces rigid curriculum structures with a flexible choice-of-subject credits scheme, empowering students to pick choices aligned with their interests and career goals.

According to NEP 2020, the curriculum should be holistic and shall include all best practices from all around the globe that improve the educational quality. Architectural education, based on traditional theoretical content, now also connects with professional practice through internships, industry exposure, practical application of digital tools such as Building Information Modelling (BIM), parametric design, and artificial intelligence. This allows students to be well-versed in design principles, while carrying skill sets with modern technological progress.

To that end, the policy encourages interdisciplinary education, and would potentially allow architecture students to take classes on engineering, environmental studies, data analytics, and urban planning. Such a wide-based approach to learning would improve their problem-solving skills, allowing them to tackle real-life challenges. Moreover, the research and innovation aspect of the specialization would promote a culture of questioning, leading students to undertake projects that have an impact on the sustainable and smart development of cities.

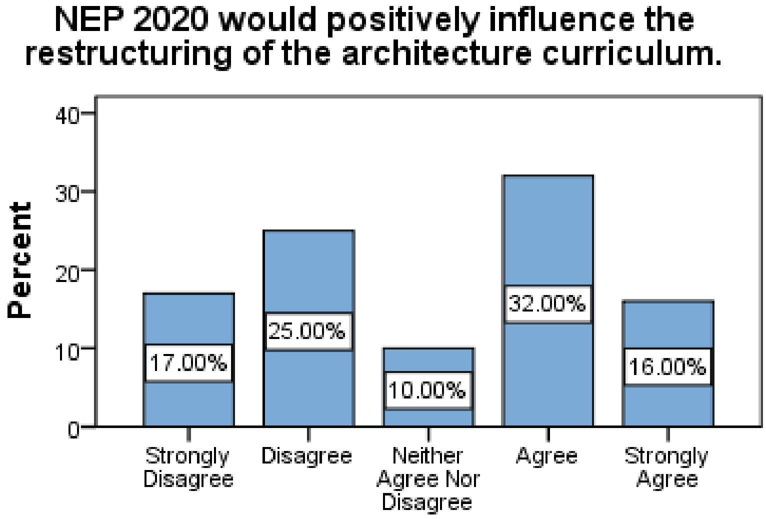
A major highlight of the NEP 2020 is the focus on industry-academia partnership which allows knowledge sharing of professionals with students. This would bridge the gap between theoretical learning in classrooms and practical applications in the industry, thereby making graduates more industry-ready. In this regard, NEP 2020 would provide an architectural education system that would be more agile and forward-looking.

**Table 4.51**

**NEP 2020 would positively influence the restructuring of the architecture curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 85 | 17.0 | 17.0 | 17.0 |
| | Disagree | 125 | 25.0 | 25.0 | 42.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 52.0 |
| | Agree | 160 | 32.0 | 32.0 | 84.0 |
| | Strongly Agree | 80 | 16.0 | 16.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.51**



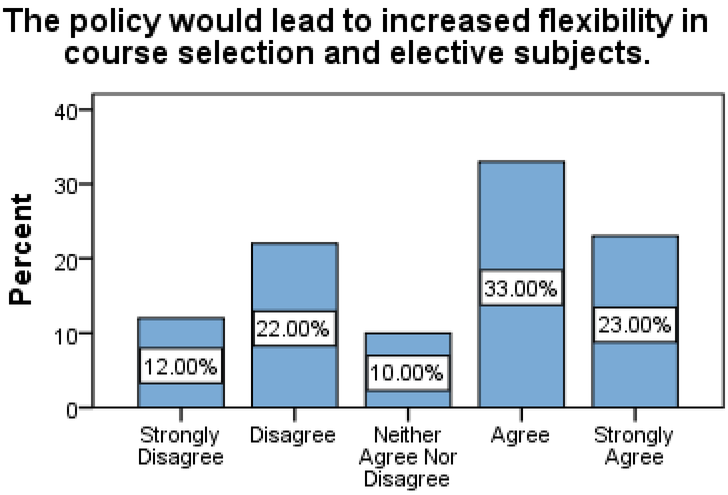

According to the findings of the survey, 48% of them (32% Agree and 16% Strongly Agree) have a positive view of NEP 2020 having a positive influence on restructuring the architecture curriculum, whereas 42% (25% Disagree and 17% Strongly Disagree) did not have this optimism. At the same time, 10% hold a neutral stance, indicating differing opinions on the policy's potential efficacy.

**Table 4.52**

**The policy would lead to increased flexibility in course selection and elective subjects.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 60 | 12.0 | 12.0 | 12.0 |
| | Disagree | 110 | 22.0 | 22.0 | 34.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 44.0 |
| | Agree | 165 | 33.0 | 33.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.52**



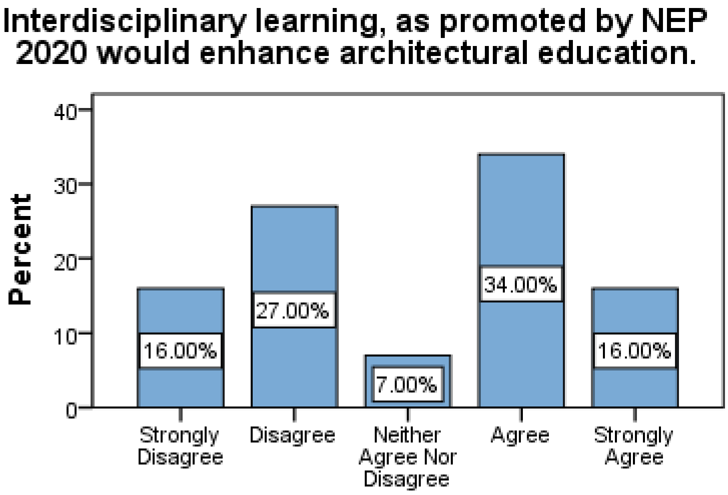

The findings of the survey indicate that 56% (33% Agree + 23% Strongly Agree) of the total respondents feel that NEP 2020 will allow for more flexibility in terms of picking course and elective subjects, while 34% (22% Disagree + 12% Strongly Disagree) disagreed. Meanwhile, 10% shows neutrality which states a generally positive impact of this policy on academic flexibility.

**Table 4.53**

**Interdisciplinary learning, as promoted by NEP 2020 would enhance architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 80 | 16.0 | 16.0 | 16.0 |
| | Disagree | 135 | 27.0 | 27.0 | 43.0 |
| | Neither Agree Nor Disagree | 35 | 7.0 | 7.0 | 50.0 |
| | Agree | 170 | 34.0 | 34.0 | 84.0 |
| | Strongly Agree | 80 | 16.0 | 16.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.53**



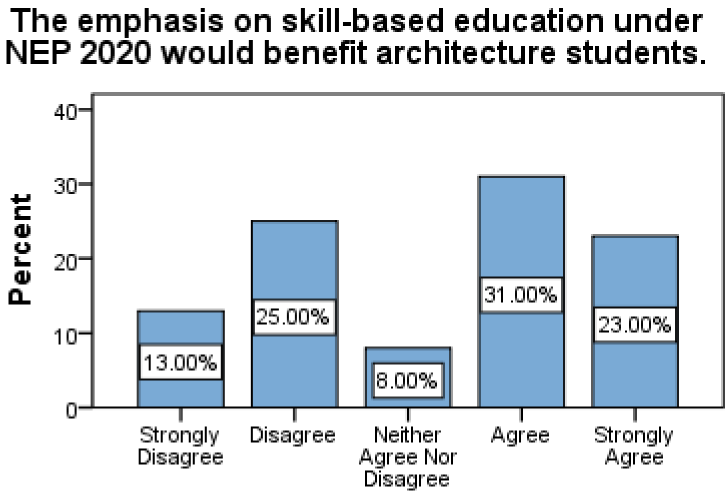

50% of respondents (34% Agree, 16% Strongly Agree) consider that NEP 2020 promotes interdisciplinary learning, that promotes the vision of education in disciplines like Architect. 43% (27% disagree and 16% strongly disagree) disagree, and 7% are neutral. This indicates a clear division, but slightly more respondents agree in favour of the positive influence of multidisciplinary education on architecture teaching practice.

**Table 4.54**

**The emphasis on skill-based education under NEP 2020 would benefit architecture students.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 65 | 13.0 | 13.0 | 13.0 |
| | Disagree | 125 | 25.0 | 25.0 | 38.0 |
| | Neither Agree Nor Disagree | 40 | 8.0 | 8.0 | 46.0 |
| | Agree | 155 | 31.0 | 31.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.54**



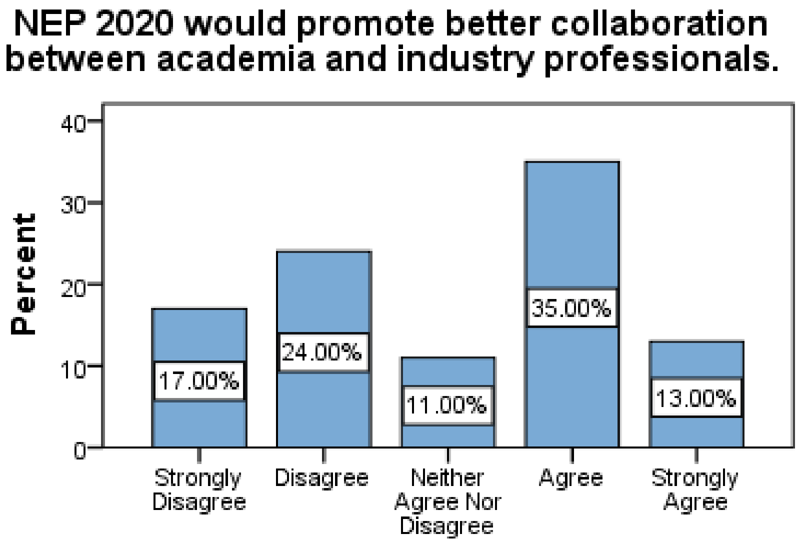

From the survey results, NEP 2020 skill-based education is mostly positive for architecture students. Over half (54%) agree (Agree + Strongly Agree) that skill-based education would be helpful for their learning and career prospects. Yet 38% (Disagree + Strongly Disagree) believe that it would not be of substantial benefit, and 8% are neutral. While skill development is appreciated, there is potential for improvement, as these findings also indicate that there are some concerns that an implementation of skill development could maximize the effectiveness of architectural education.

**Table 4.55**

**NEP 2020 would promote better collaboration between academia and industry professionals.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 85 | 17.0 | 17.0 | 17.0 |
| | Disagree | 120 | 24.0 | 24.0 | 41.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 52.0 |
| | Agree | 175 | 35.0 | 35.0 | 87.0 |
| | Strongly Agree | 65 | 13.0 | 13.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.55**



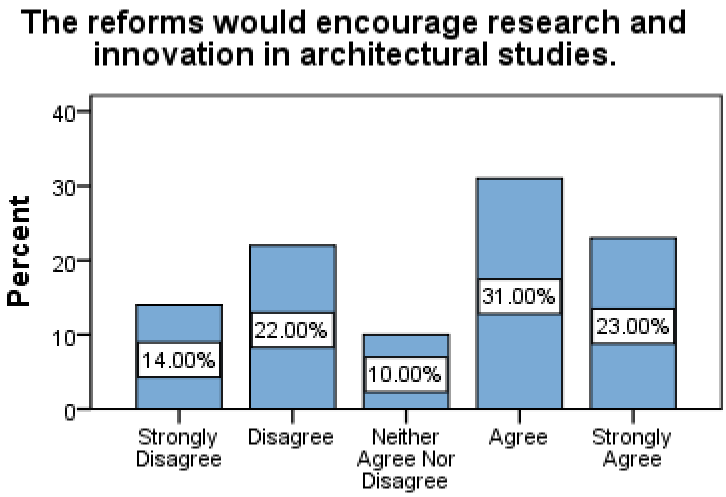

48% of respondents (Agree + Strongly Agree) feel that NEP 2020 would have positive effect on the interaction between academia and industrial experts. 41% (Disagree + Strongly Disagree) think that cooperation may still be lacking, and neutrality is at 11%.

**Table 4.56**

**The reforms would encourage research and innovation in architectural studies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 110 | 22.0 | 22.0 | 36.0 |
| | Neither Agree Nor Disagree | 50 | 10.0 | 10.0 | 46.0 |
| | Agree | 155 | 31.0 | 31.0 | 77.0 |
| | Strongly Agree | 115 | 23.0 | 23.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.56**



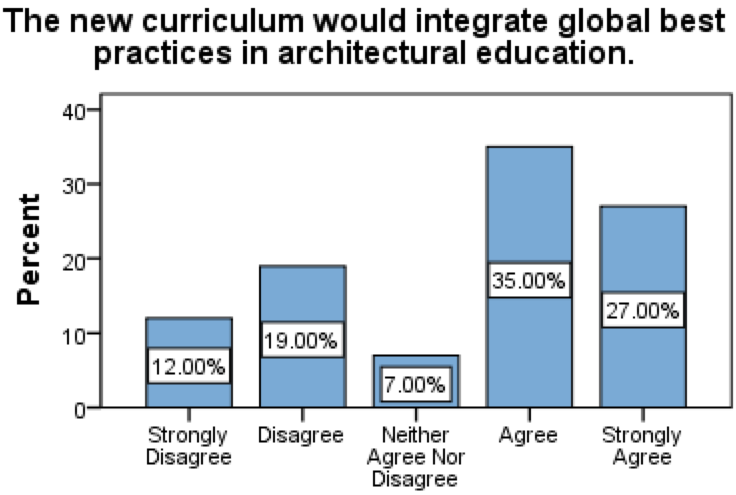

Interestingly, 54% of respondents (Agree + Strongly Agree) also believe that reforms due to NEP 2020 would encourage research and innovation garnered in architectural studies. However, 36% really think that it would have a limited impact (Disagree + Strongly Disagree), but 10% stay neutral.

**Table 4.57**

**The new curriculum would integrate global best practices in architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 60 | 12.0 | 12.0 | 12.0 |
| | Disagree | 95 | 19.0 | 19.0 | 31.0 |
| | Neither Agree Nor Disagree | 35 | 7.0 | 7.0 | 38.0 |
| | Agree | 175 | 35.0 | 35.0 | 73.0 |
| | Strongly Agree | 135 | 27.0 | 27.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.57**



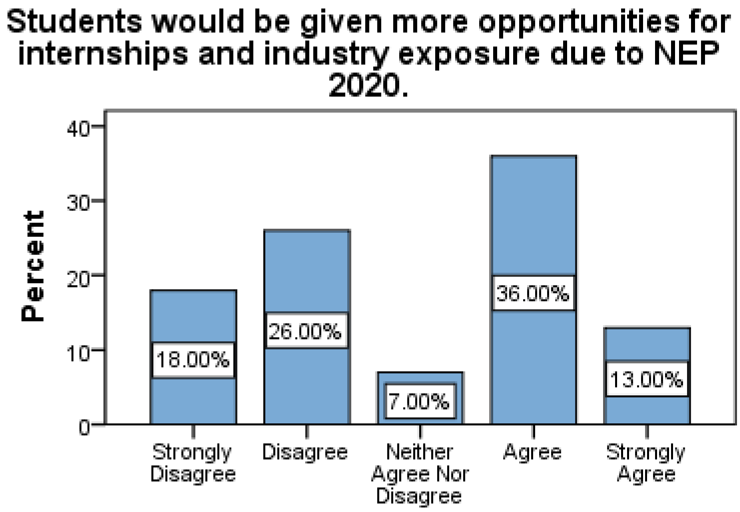

The 62% of respondents feel that the effectiveness of the new curriculum in architectural education would integrate global best practices. Yet, 31% (Disagree + Strongly Disagree) think otherwise, and 7% are neutral.

**Table 4.58**

**Students would be given more opportunities for internships and industry exposure due to NEP 2020.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 90 | 18.0 | 18.0 | 18.0 |
| | Disagree | 130 | 26.0 | 26.0 | 44.0 |
| | Neither Agree Nor Disagree | 35 | 7.0 | 7.0 | 51.0 |
| | Agree | 180 | 36.0 | 36.0 | 87.0 |
| | Strongly Agree | 65 | 13.0 | 13.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.58**



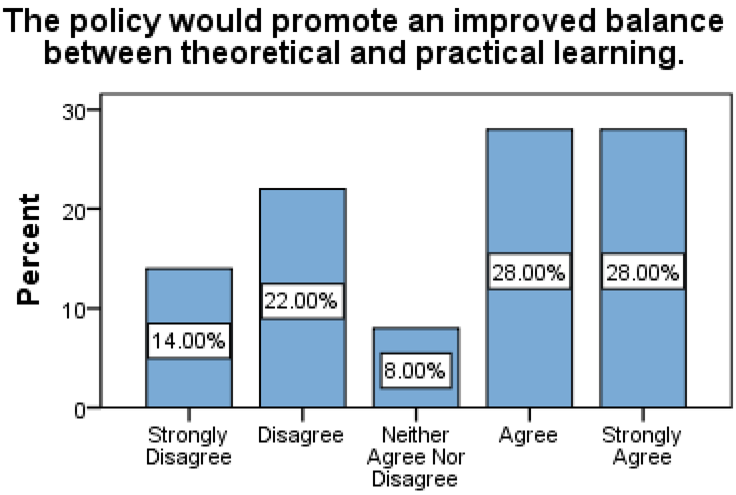

Results of survey: NEP 2020 would increase opportunities of internships & Industry exposure (49%) Agree+ Strongly Agree. But still 44% (Disagree + Strongly Disagree) feel that the opportunities would still not sufficient and 7% are neutral.

**Table 4.59**

**The policy would promote an improved balance between theoretical and practical learning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 70 | 14.0 | 14.0 | 14.0 |
| | Disagree | 110 | 22.0 | 22.0 | 36.0 |
| | Neither Agree Nor Disagree | 40 | 8.0 | 8.0 | 44.0 |
| | Agree | 140 | 28.0 | 28.0 | 72.0 |
| | Strongly Agree | 140 | 28.0 | 28.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.59**



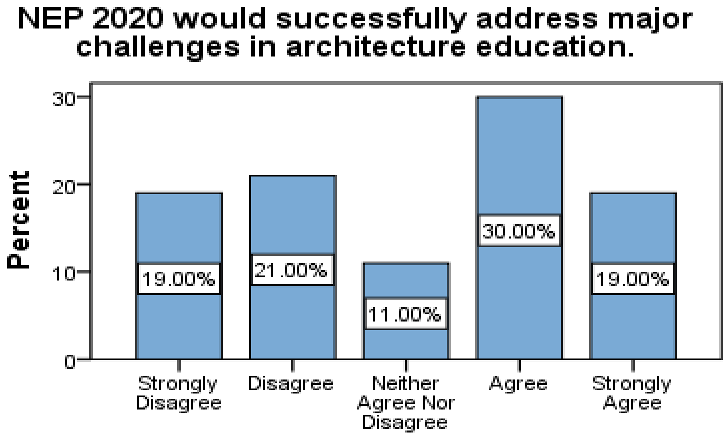

It suggest that NEP 2020 would help in achieving better balance between theoretical and practical learning in architectural education as perceived by 56% of the respondents (Agree + Strongly Agree). By contrast, over a third (36%) (Disagree + Strongly Disagree) believe the balance would still not be there yet, and just 8% are neutral. These outcomes imply that some adjustments might be required to sufficiently incorporate practical education in a responsive manner.

**Table 4.60**

**NEP 2020 would successfully address major challenges in architecture education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 95 | 19.0 | 19.0 | 19.0 |
| | Disagree | 105 | 21.0 | 21.0 | 40.0 |
| | Neither Agree Nor Disagree | 55 | 11.0 | 11.0 | 51.0 |
| | Agree | 150 | 30.0 | 30.0 | 81.0 |
| | Strongly Agree | 95 | 19.0 | 19.0 | 100.0 |
| | Total | 500 | 100.0 | 100.0 | |

**Figure 4.60**




Are NEP 2020 reforms in architecture education would address major challenges in the field? 49% of respondents (Agree + Strongly Agree) believe that the policy would be successful in tackling these issues, compared with 40% (Disagree + Strongly Disagree) who feel that the policy would face significant challenges. At the same time, 11% feel neutral on the statement.

**4.3 Responses from Faculties:**

Architecture is an ever changing field, and therefore a curriculum must adapt to industry, technology, and society in its relevance. The current scenario of the prevailing architecture curriculum in India and its relevance in today's context is what this study attempts to look into. 250 faculty members from different 25 institutions have been sampled through a structured questionnaire for primary data collection to get an idea about the strengths and pitfalls that exist in architectural education. The analysis contained in this report has two components: demographic analysis, which describes the characteristics of the respondents, and objective-specific analysis, which assesses alignment of the curriculum with contemporary professional and academic needs. This study aims to help provide answers about whether the current curriculum prepares students with required skills and knowledge to orient themselves toward the changing demands of the architectural profession.

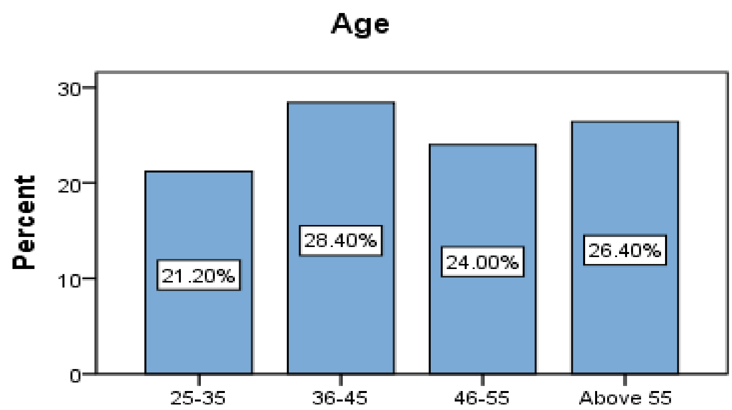
### 4.3.1 Demographic Analysis

**Table 4.61**

**Age**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 25-35 | 53 | 21.2 | 21.2 | 21.2 |
| | 36-45 | 71 | 28.4 | 28.4 | 49.6 |
| | 46-55 | 60 | 24.0 | 24.0 | 73.6 |
| | Above 55 | 66 | 26.4 | 26.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.61**



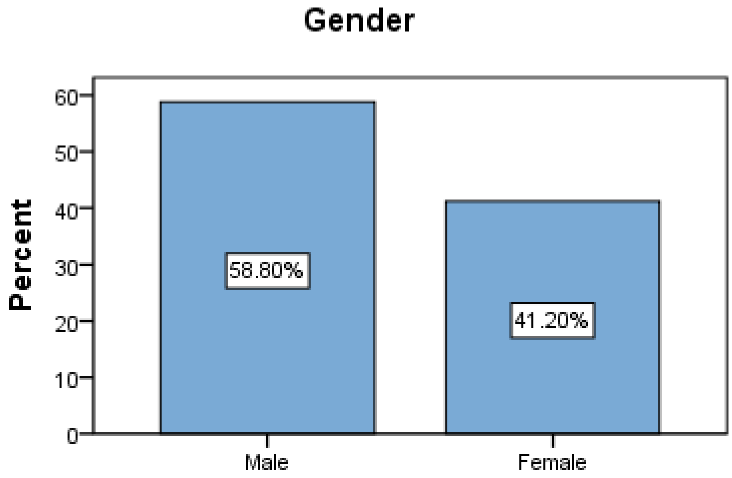

Age distribution of the surveyed faculty members indicates a motile spread of experience levels. The biggest group belongs to that age range of 36-45 age bracket, as they represent 28.4% of the respondents, while those above 55 account for 26.4%. 24.0% of all faculty members are aged 46-55 and 21.2% the youngest group (aged 25-35). This distribution provides a good covering of early-career, mid-career and senior faculty members a few more years out giving access to varied perspectives on relevance of the current architecture curriculum.

**Table 4.62**

**Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 147 | 58.8 | 58.8 | 58.8 |
| | Female | 103 | 41.2 | 41.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.62**



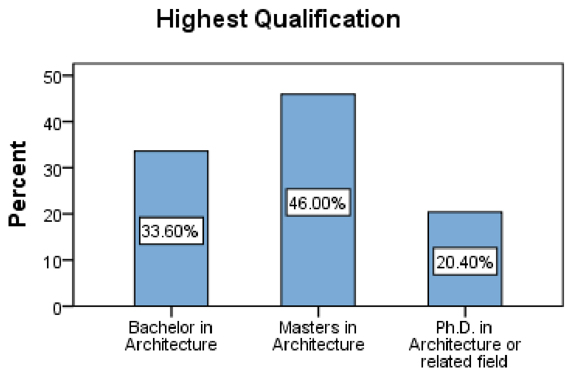

Of the surveyed faculty members, 58.8% identify as male, and 41.2% identify as female. This signals a significant gender gap among faculty members of architecture programs, though female faculty are still represented in numbers capable of providing several valuable perspectives in the study.

**Table 4.63**

**Highest Qualification**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Bachelor in Architecture | 84 | 33.6 | 33.6 | 33.6 |
| | Masters in Architecture | 115 | 46.0 | 46.0 | 79.6 |
| | Ph.D. in Architecture or related field | 51 | 20.4 | 20.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.63**



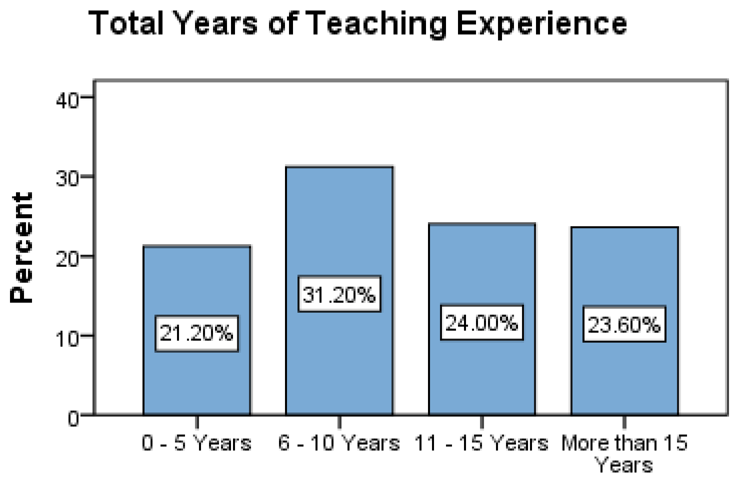

The survey of faculty members indicates a highly qualified academic pool, as the number of highest qualification reached at that time is 46% with a Masters in Architecture, 33.6% with a Bachelors in Architecture. Another result is that 20.4% of respondents have received a Ph. D. in architecture or related field. A majority of the faculty holding advanced degrees helps assure academic rigor and preparation for building education in architecture in the country.

**Table 4.64**

**Total Years of Teaching Experience**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0 - 5 Years | 53 | 21.2 | 21.2 | 21.2 |
| | 6 - 10 Years | 78 | 31.2 | 31.2 | 52.4 |
| | 11 - 15 Years | 60 | 24.0 | 24.0 | 76.4 |
| | More than 15 Years | 59 | 23.6 | 23.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.64**



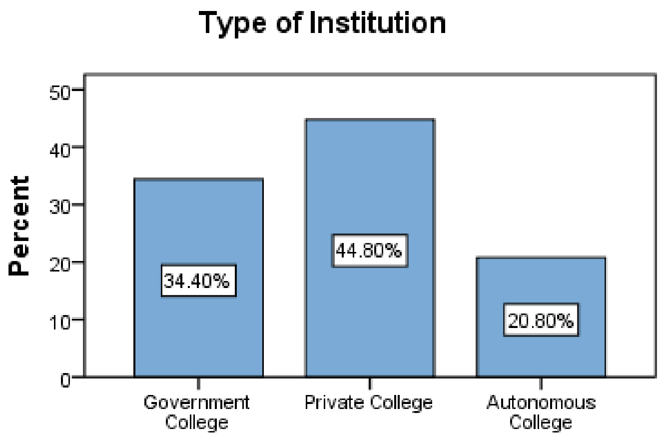

The surveyed faculty members have a diverse range of teaching experience, and the survey respondents are spread evenly across career stage. The highest segment, 31.2%, includes teachers who have been teaching for 6-10 years, while 24.0% have 11-15 years and 23.6% have more than 15 years of teaching experience. 21.2% were early stage in career (0-5 years' experience) Having a combination of both fresh and seasoned insiders ensures a variety of perspective on the architecture curriculum assessment.

**Table 4.65**

**Type of Institution**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Government College | 86 | 34.4 | 34.4 | 34.4 |
| | Private College | 112 | 44.8 | 44.8 | 79.2 |
| | Autonomous College | 52 | 20.8 | 20.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.65**



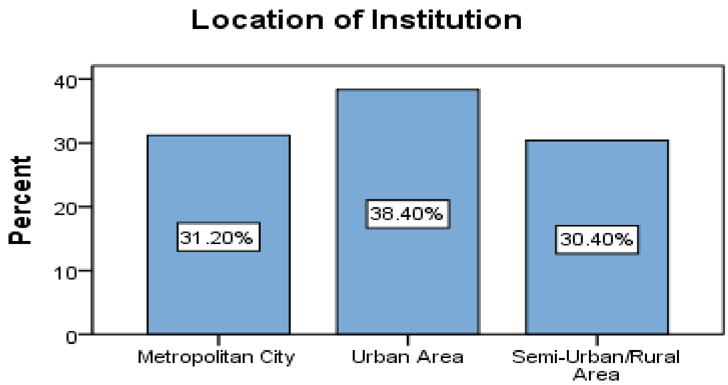

Faculty members who responded to this survey come from a diverse range of institutions, 44.8% are from private colleges and 34.4 % being from a government college. Another 20.8 per cent of our respondents were autonomous colleges. To achieve this goal, the sample is broadly representative of the architecture curriculum across diverse institutional configurations, capturing diversity in disciplines, resources and regulatory frameworks of academic systems.

**Table 4.66**

**Location of Institution**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Metropolitan City | 78 | 31.2 | 31.2 | 31.2 |
| | Urban Area | 96 | 38.4 | 38.4 | 69.6 |
| | Semi-Urban/Rural Area | 76 | 30.4 | 30.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.66**



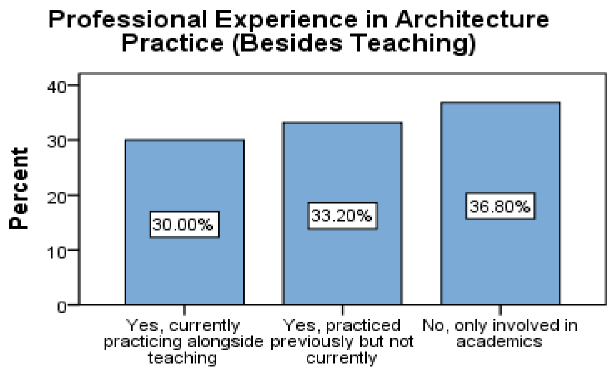
The institutions that participated in the survey are geographically divided as follows: 38.4% are placed within urban regions, 31.2% within metropolitan cities, and 30.4% within semi-urban and rural areas. This balanced representation accounts for a variety of perspectives on the architecture curriculum, as institutional location has a considerable impact about academic resources, industry exposure and teaching methodologies.

**Table 4.67**

**Professional Experience in Architecture Practice (Besides Teaching)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes, currently practicing alongside teaching | 75 | 30.0 | 30.0 | 30.0 |
| | Yes, practiced previously but not currently | 83 | 33.2 | 33.2 | 63.2 |
| | No, only involved in academics | 92 | 36.8 | 36.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.67**



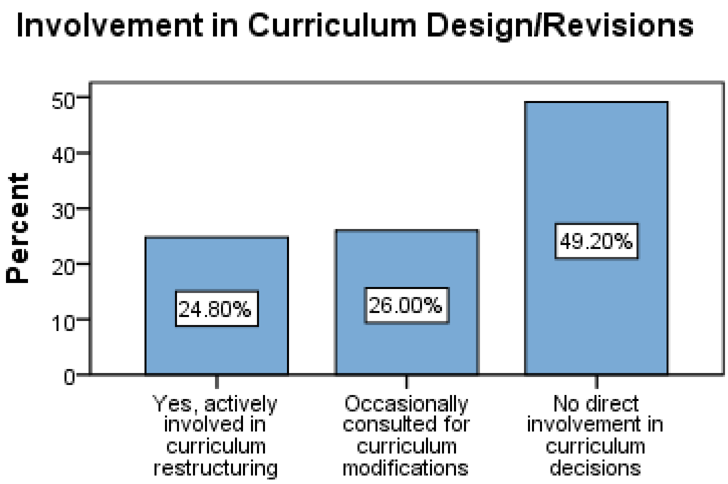

The faculty members surveyed in this study have a large range of professional experience in architectural practice. 30.0% of the participants are currently working in practice along with teaching, while 33.2% have past professional experience and are not doing any practice. At the same time, 36.8% are in pure academia, with no professional practice. Such distribution signifies a wide range of theoretical and practical experience of faculty members, providing diverse standpoint on the significance of architecture curriculum.

**Table 4.68**

**Involvement in Curriculum Design/Revisions**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes, actively involved in curriculum restructuring | 62 | 24.8 | 24.8 | 24.8 |
| | Occasionally consulted for curriculum modifications | 65 | 26.0 | 26.0 | 50.8 |
| | No direct involvement in curriculum decisions | 123 | 49.2 | 49.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.68**




The extent to which faculty members participate in designing and revising curricula varies widely. Of those, 24.8% are actively consulting to restructure the curriculum while 26.0% are only occasionally consulted regarding modifications. But a plurality of just 49.2% have no direct hand in curriculum decisions. This suggests that although part of faculty members' contribute in framing the curriculum a vast section is not involved in it, showing how much the curricular refresh are responding to the needs of architecture that are recent.

### 4.3.2 Evaluating the Alignment of Curriculum with Industry Needs:

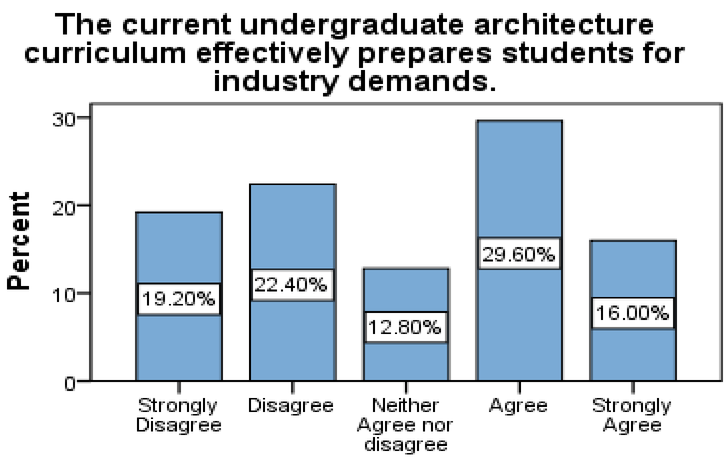
The architecture curriculum must be well thought out and prepare them for the skills, knowledge, and competence that the industry needs. The following section contains the opinions by faculty members on the current curriculum's effectiveness at adapting to the changing needs of the architectural profession. Responses focus on key areas covering inclusion of emerging technologies, risk-based exposure, sustainability considerations, and industry-academia collaboration. The study seeks to analyze the gaps and improvement areas in the curriculum based on these insights, ultimately ensuring that graduates are prepared for real-life challenges in architecture and design.

**Table 4.69**

**The current undergraduate architecture curriculum effectively prepares students for industry demands.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 48 | 19.2 | 19.2 | 19.2 |
| | Disagree | 56 | 22.4 | 22.4 | 41.6 |
| | Neither Agree nor disagree | 32 | 12.8 | 12.8 | 54.4 |
| | Agree | 74 | 29.6 | 29.6 | 84.0 |
| | Strongly Agree | 40 | 16.0 | 16.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.69**



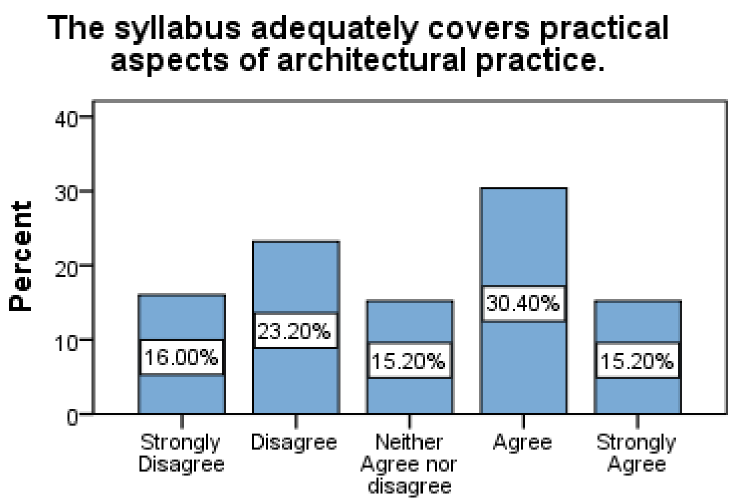
Faculty responses are mixed about whether the current undergraduate architecture curriculum is effective in preparing students to meet industry demands. 29.6%, strongly agree that the curriculum is efficacious and 16.0% strongly disagree, however, many do not support with 22.4% agreeing, 19.2 % disagreeing. Yet another 12.8% were neutral. Overall, the results of this study reveal that some faculty do believe curriculum to be in accordance with industry expectations, but there is a great lack of consensus that indicates there are improvements to be made in regards to relevance and practical applicability of the curriculum to the industry.

**Table 4.70**

**The syllabus adequately covers practical aspects of architectural practice.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 16.0 | 16.0 | 16.0 |
| | Disagree | 58 | 23.2 | 23.2 | 39.2 |
| | Neither Agree nor disagree | 38 | 15.2 | 15.2 | 54.4 |
| | Agree | 76 | 30.4 | 30.4 | 84.8 |
| | Strongly Agree | 38 | 15.2 | 15.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.70**



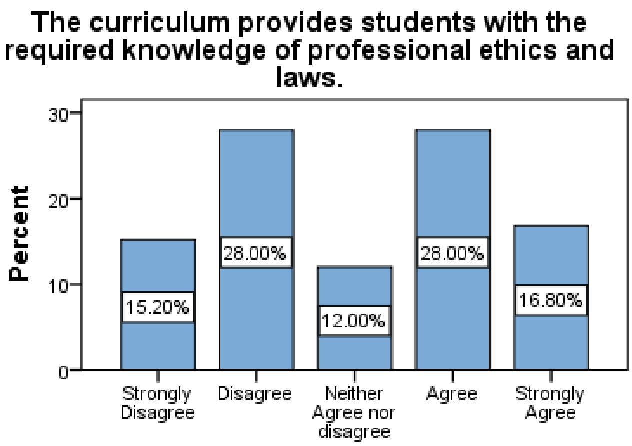
Faculty members, however, respond with a broader view of whether the syllabus addresses the practical elements of architectural practice. Although 30.4% +15.2%=45.6% agreed and 15.2% strong agreed, which shows that some faculty members find the syllabus comfortable, but at the same time many did not find it to be that good. In particular, 23.2% disagree and 16.0% strongly disagree, indicating lacks in practical training. Moreover, 15.2% were neutral, indicating some degree of uncertainty or mixed feelings. These results indicate the significance to introduce equal portions of practical exposure in the syllabus to prepare pupils, students in the field of Architecture to be more ready to face practical intractabilities from their profession.

**Table 4.71**

**The curriculum provides students with the required knowledge of professional ethics and laws.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 38 | 15.2 | 15.2 | 15.2 |
| | Disagree | 70 | 28.0 | 28.0 | 43.2 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 55.2 |
| | Agree | 70 | 28.0 | 28.0 | 83.2 |
| | Strongly Agree | 42 | 16.8 | 16.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.71**



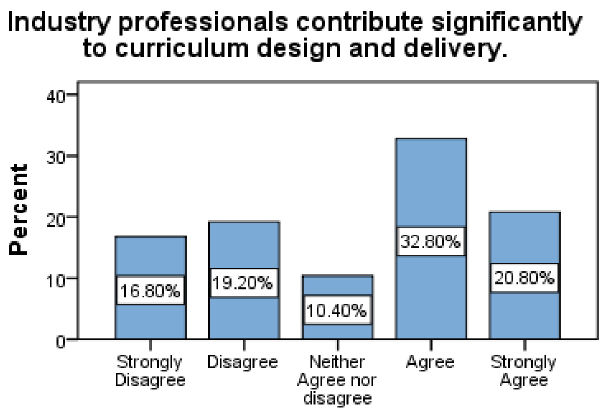
The responses reveal different opinions on whether or not the curriculum sufficiently equips students with the knowledge of professional ethics and laws needed. Although 28.0% and 16.8% strongly agreed with the statements which indicates that some faculty members think they are satisfied with the curriculum in this aspect, some faculty members had opposite answers. To be more precise: 28.0% disagreed and 15.2% strongly disagreed, which indicate a gap in what the coverage of professional ethics and legal aspects looked like. There were 12.0% neutral responses suggesting opposing views with neutral disposition. These results indicate that the integration of professional ethics into legal education remains insufficient, and improving it is important to prepare students for practice.

**Table 4.72**

**Industry professionals contribute significantly to curriculum design and delivery.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 42 | 16.8 | 16.8 | 16.8 |
| | Disagree | 48 | 19.2 | 19.2 | 36.0 |
| | Neither Agree nor disagree | 26 | 10.4 | 10.4 | 46.4 |
| | Agree | 82 | 32.8 | 32.8 | 79.2 |
| | Strongly Agree | 52 | 20.8 | 20.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.72**



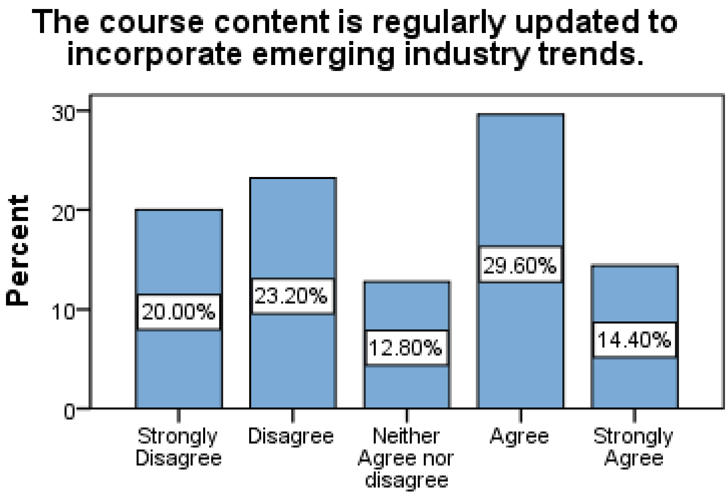
There appears to be a divergence in faculty opinion about the role of industry professionals in curriculum shaping and delivery. Though 20.8% of respondents strongly agreed that a dominant portion of industry-participation was a possibility, 32.8% agreed, a sign that there are still concerns. Meanwhile, 19.2% disagreed and 16.8% strongly disagreed that they contributed significantly to the industry. Moreover, 10.4% were neutral, indicating some ambiguity about the level of engagement with the industry. It indicates a lot of rethinking about strengthening academia and industries collaboration to end up with an adequate industry-oriented architecture curriculum.

**Table 4.73**

**The course content is regularly updated to incorporate emerging industry trends.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 50 | 20.0 | 20.0 | 20.0 |
| | Disagree | 58 | 23.2 | 23.2 | 43.2 |
| | Neither Agree nor disagree | 32 | 12.8 | 12.8 | 56.0 |
| | Agree | 74 | 29.6 | 29.6 | 85.6 |
| | Strongly Agree | 36 | 14.4 | 14.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.73**



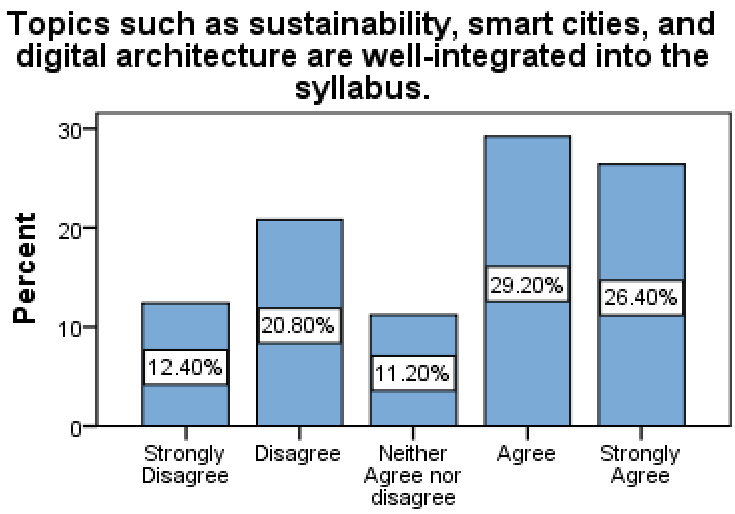
The variation in responses reflects a lack of consensus among faculty on whether updating course content to build up on emerging trends in the industry is a regular practice. 29.6% agreed that to keep the curriculum relevant, it is important; 14.4% strongly agreed; yet still, some institutions care less about this. 23.2% disagreed and 20.0% strongly disagreed, showing a presence of gaps in updating the curricula. A further 12.8% were neutral suggesting a degree of uncertainty. This calls for a more structured and deliberate integration of industry developments into the architecture curriculum.

**Table 4.74**

**Topics such as sustainability, smart cities, and digital architecture are well-integrated into the syllabus.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 31 | 12.4 | 12.4 | 12.4 |
| | Disagree | 52 | 20.8 | 20.8 | 33.2 |
| | Neither Agree nor disagree | 28 | 11.2 | 11.2 | 44.4 |
| | Agree | 73 | 29.2 | 29.2 | 73.6 |
| | Strongly Agree | 66 | 26.4 | 26.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.74**



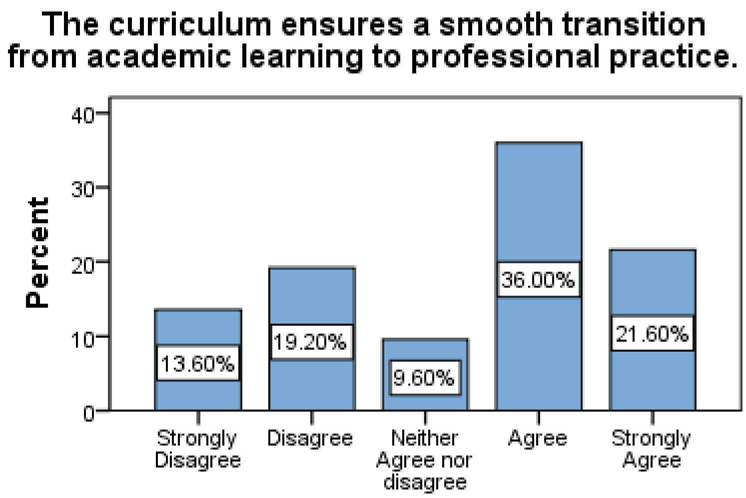
Areas of sustainability, smart cities, and digital architecture are, according to the responses, relatively well infiltrated into the syllabus, with 29.2% of faculty agreeing and 26.4% strongly agreeing. However, 20.84% disagreed and 12.41% strongly disagreed if contemporary themes were incorporated, indicating that a fair proportion of respondents felt that contemporary themes could have been incorporated in the model and there is still room for improvement. Worryingly, 11.2% of leaders reported being ambivalent about AI integration, an indication of uncertainty over the extent to which businesses will embrace AI. Such results emphasise the importance of an up-to-date curriculum to capture shifting trends in architecture education.

**Table 4.75**

**The curriculum ensures a smooth transition from academic learning to professional practice.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 34 | 13.6 | 13.6 | 13.6 |
| | Disagree | 48 | 19.2 | 19.2 | 32.8 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 42.4 |
| | Agree | 90 | 36.0 | 36.0 | 78.4 |
| | Strongly Agree | 54 | 21.6 | 21.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.75**



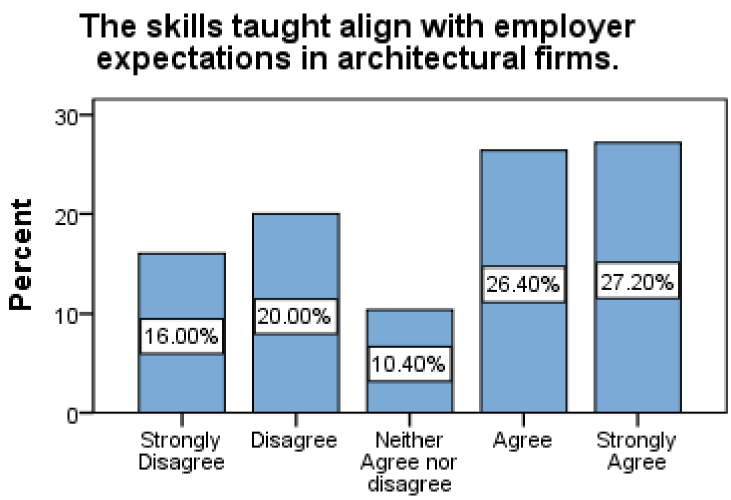
A large majority of faculty responded favourably to the proposition that, if students learn in the classroom setting, it makes for a smooth transition to practice: 36.0% agreed, and 21.6% strongly agreed. But an equally large share of subjects (19.2 percent disagreed and 13.6 percent strongly disagreed) expressed concern about whether the transition would be effective. Furthermore, 9.6% of respondents remained neutral, suggesting variability in experiences or uncertainty within the responses. The identified themes provide insights into potential gaps or areas for enhancement in the curriculum to further align it with the expectations of professional practice in the field.

**Table 4.76**

**The skills taught align with employer expectations in architectural firms.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 16.0 | 16.0 | 16.0 |
| | Disagree | 50 | 20.0 | 20.0 | 36.0 |
| | Neither Agree nor disagree | 26 | 10.4 | 10.4 | 46.4 |
| | Agree | 66 | 26.4 | 26.4 | 72.8 |
| | Strongly Agree | 68 | 27.2 | 27.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.76**



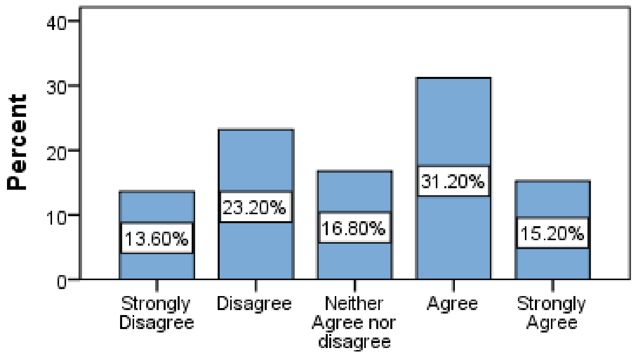
The disparate views in faculty responses suggest a lack of strong consensus about whether the skills taught in the undergraduate architecture classroom align with employer expectations. Although most agree that the curriculum meets industry requirements (26.4% agree, 27.2% strongly agree), a fair amount disagree (20.0% disagree, 16.0% strongly disagree). Another 10.4% were neutral, indicating possible uncertainty or variability in regard to how well the curriculum trains them for work-related roles. The results of the study produce great contrast that serves to enhance continuous updates of the curricula and stronger connections with the architectural industry, provided that the skills of the new generations can meet the demands of offices.

**Table 4.77**

**Students receive sufficient exposure to real-world projects during their studies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 34 | 13.6 | 13.6 | 13.6 |
| | Disagree | 58 | 23.2 | 23.2 | 36.8 |
| | Neither Agree nor disagree | 42 | 16.8 | 16.8 | 53.6 |
| | Agree | 78 | 31.2 | 31.2 | 84.8 |
| | Strongly Agree | 38 | 15.2 | 15.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.77**
**Students receive sufficient exposure to real-world projects during their studies.**



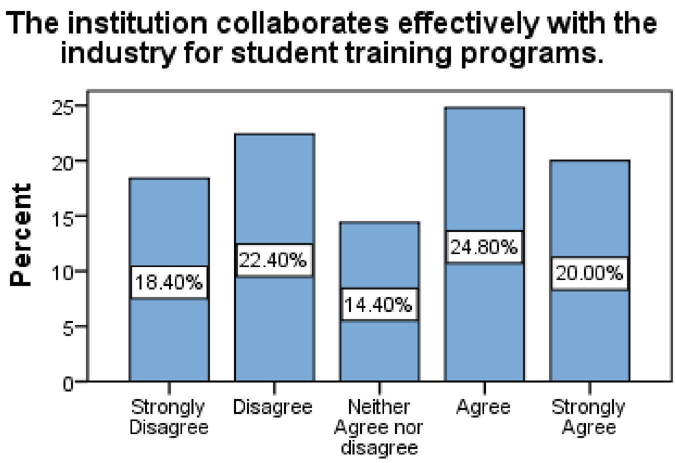

Faculty responses about students' exposure to real-world projects during their studies reflect a different perspective. Although, 31.2% and 15.2% strongly agree that they provide students with hands-on, real-world experience, a sizeable 23.2% disagree and 13.6% strongly disagree that students obtain enough opportunity in this regard. In addition, 16.8% remained neutral, indicating diverse experiences among the different institutions. To fill the chasm between academia and the industry, these responses underscore the need for increased collaboration by the industry: internships and involvement on live projects, ensuring that students have the practical skills that they are learning about in theory.

**Table 4.78**

**The institution collaborates effectively with the industry for student training programs.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 46 | 18.4 | 18.4 | 18.4 |
| | Disagree | 56 | 22.4 | 22.4 | 40.8 |
| | Neither Agree nor disagree | 36 | 14.4 | 14.4 | 55.2 |
| | Agree | 62 | 24.8 | 24.8 | 80.0 |
| | Strongly Agree | 50 | 20.0 | 20.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.78**




The responses to collaboration with the industry for student training programs reflect an indifferent attitude of the faculty members towards this collaboration. A sizeable 22.4% disagree, and a further 18.4% are strong in their disagreement on this issue, pointing to a lack of effective engagement with industry by institutions. 24.8% and 20.0% strongly agree that institutions engage effectively with industry. Also, 14.4% were neutral indicating that effort may vary from institution to institution. These results imply that forming stronger collaborations with architectural companies, implementing structured internship opportunities, and engaging professionals in seminars and workshops would help improve students' practical training and prepare them for the industry's demands.

### 4.3.3 Impact of Curriculum Rigidity on Adaptability to Trends

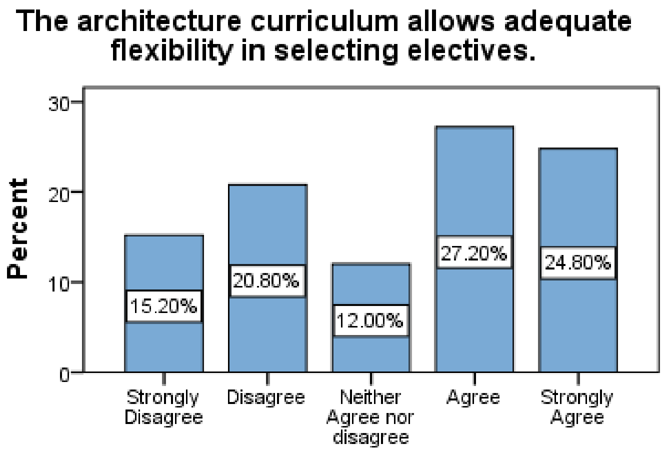
Educators, industry professionals, and students have expressed growing concern over the implications of curricular rigidity on adaptability to emerging trends in architecture. The collected responses show a spectrum of points of view on the overall adaptability of the traditional architectural curriculum to include up and coming industry trends like AI in architecture, parametric design, sustainable architecture, and smart cities. While some replies recognize emerging topics in the syllabus, many see it as too rigid and potentially hampering students' ability to adapt to rapid technological or conceptual developments. In this section we examine received responses, emphasizing some insights on how curriculum flexibility (or lack thereof) influences students' readiness to engage in an increasingly diversified architectural ecosystem.

**Table 4.79**

**The architecture curriculum allows adequate flexibility in selecting electives.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 38 | 15.2 | 15.2 | 15.2 |
| | Disagree | 52 | 20.8 | 20.8 | 36.0 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 48.0 |
| | Agree | 68 | 27.2 | 27.2 | 75.2 |
| | Strongly Agree | 62 | 24.8 | 24.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.79**



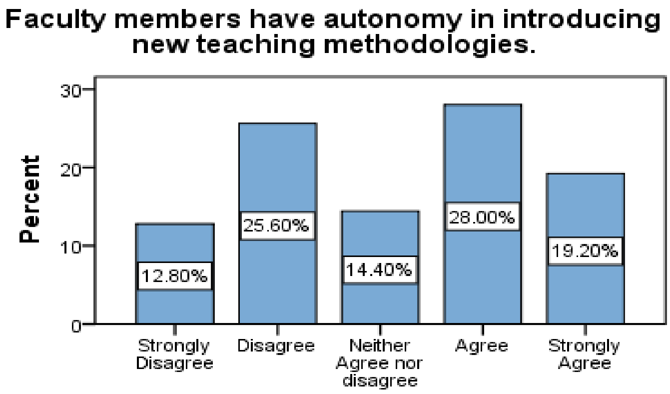

Responses about how flexible the architecture curriculum is when it comes to choosing electives reflect a range of beliefs among faculty. Although 27.2% agree and 24.8% strongly agree followed by 20.8% disagree and 15.2% strongly disagree that students have enough flexibility in choosing electives, explaining some concern about a limited course range. Furthermore, 12.0% were neutral, indicating some degree of uncertainty or variability between different institutions. These results show the importance of providing more elective options, interdisciplinary choices and giving students the ability to customize their education to their career goals and industry needs.

**Table 4.80**

**Faculty members have autonomy in introducing new teaching methodologies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 32 | 12.8 | 12.8 | 12.8 |
| | Disagree | 64 | 25.6 | 25.6 | 38.4 |
| | Neither Agree nor disagree | 36 | 14.4 | 14.4 | 52.8 |
| | Agree | 70 | 28.0 | 28.0 | 80.8 |
| | Strongly Agree | 48 | 19.2 | 19.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.80**



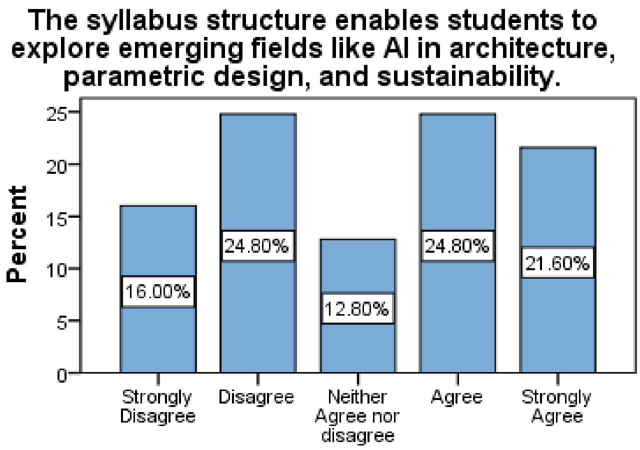

On the topic of faculty autonomy to introduce novel teaching methodologies, the responses expressed a subjective point of view. For one thing, 28.0% and 19.2% believe and strongly believe, respectfully, that the faculty members are allowed to modify their teaching practices. At the same time, one-quarter of respondents—25.6% and 12.8%—strongly disagree and disagree, respectfully, indicating potential barriers at their institutions. Lastly, 14.4% stayed neutral, which suggests that the autonomy level is subject to the institutional policies and administration support. Thus, the results emphasize the need to create a more flexible academic environment that promotes teaching innovation to improve the learning outcomes and meet the dynamic industry demands.

**Table 4.81**

**The syllabus structure enables students to explore emerging fields like AI in architecture, parametric design, and sustainability.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 16.0 | 16.0 | 16.0 |
| | Disagree | 62 | 24.8 | 24.8 | 40.8 |
| | Neither Agree nor disagree | 32 | 12.8 | 12.8 | 53.6 |
| | Agree | 62 | 24.8 | 24.8 | 78.4 |
| | Strongly Agree | 54 | 21.6 | 21.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.81**



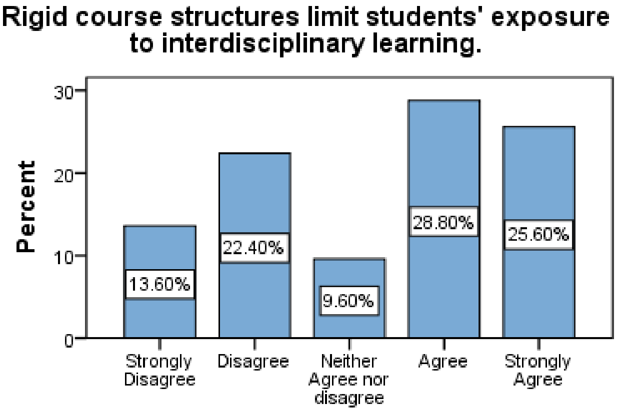

In contrast, the division in responses suggests that a syllabus structure might better support exploration among emerging fields, such as AI in architecture, parametric design, and sustainability. Although 24.8% and 21.6% agree and strongly agree, respectively, that the curriculum supports such learning, almost as many — 24.8% and 16.0% — disagree and strongly disagree, indicating gaps in coverage or implementation. Moreover, 12.8% were neutral, thus showing some uncertainty or variation of exposure to these topics. These insights indicate areas for improvement in curricular matters, whether through gap courses, workshops, or collaborations with industry participants, to prepare students better about the latest architectural advances.

**Table 4.82**

**Rigid course structures limit students' exposure to interdisciplinary learning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 34 | 13.6 | 13.6 | 13.6 |
| | Disagree | 56 | 22.4 | 22.4 | 36.0 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 45.6 |
| | Agree | 72 | 28.8 | 28.8 | 74.4 |
| | Strongly Agree | 64 | 25.6 | 25.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.82**



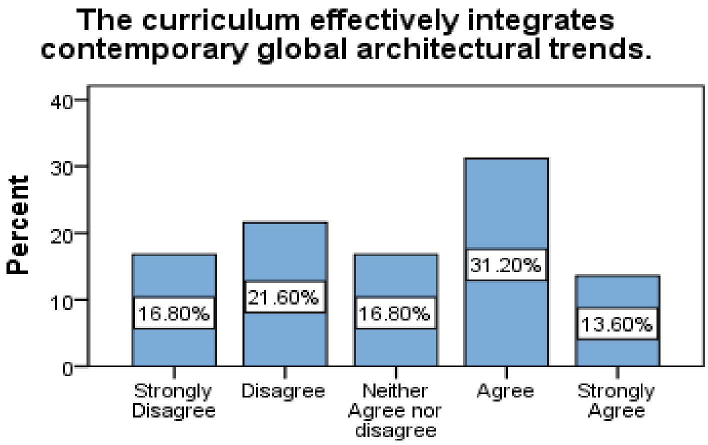

Responses enumerate the risks of rigid course structures that stifle interdisciplinary learning. Though a majority of respondents (54.4%) believe that rigid specific curricula limits students' exposure to interdisciplinary methods, a large percentage (36%) disagree, or strongly disagree to the statement. This may indicate a gap between perception, which may be influenced by institutional policies, and individual experience. These results stress that there should be more curricular flexibilities to allow individuals to tackle cross-disciplinary pathways to become more adaptable to changing architectural practices, potentials, and demands in the industry.

**Table 4.83**

**The curriculum effectively integrates contemporary global architectural trends.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 42 | 16.8 | 16.8 | 16.8 |
| | Disagree | 54 | 21.6 | 21.6 | 38.4 |
| | Neither Agree nor disagree | 42 | 16.8 | 16.8 | 55.2 |
| | Agree | 78 | 31.2 | 31.2 | 86.4 |
| | Strongly Agree | 34 | 13.6 | 13.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.83**



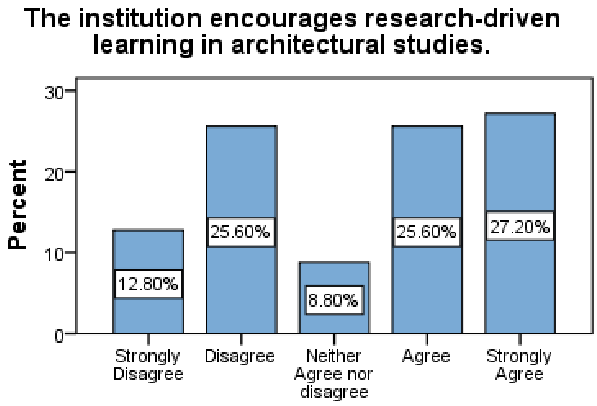

The answers about the further incorporation of new global architectural movements into the curriculum reflect an ambiguous perspective of respondents. Although 44.8% of participants answered agreed or strongly agreed that the curriculum integrates these trends, there is still a considerable portion of 38.4% that disagrees, indicating that there are students and professionals who think that recent architecture developments are not sufficiently covered. and these findings display some uncertainty or variability of information across institutions, with 16.8% neutral. All this necessitates the need for continuous updating of the curriculum in schools, as there is a lot on our way of being aware of global inventions, designing styles, and technological innovations in architecture.

**Table 4.84**

**The institution encourages research-driven learning in architectural studies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 32 | 12.8 | 12.8 | 12.8 |
| | Disagree | 64 | 25.6 | 25.6 | 38.4 |
| | Neither Agree nor disagree | 22 | 8.8 | 8.8 | 47.2 |
| | Agree | 64 | 25.6 | 25.6 | 72.8 |
| | Strongly Agree | 68 | 27.2 | 27.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.84**



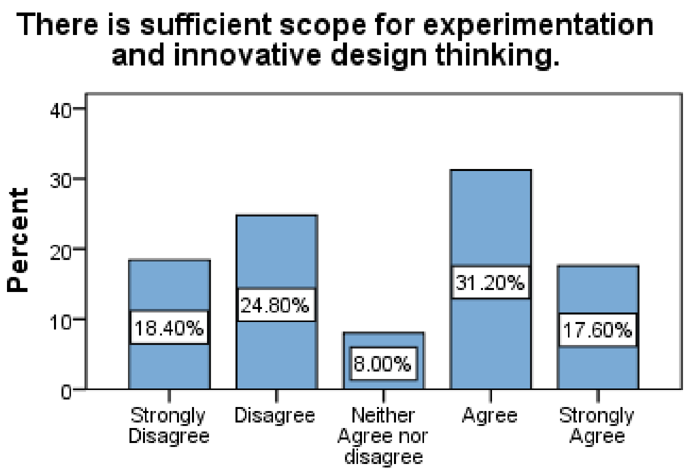

The answers concerning whether or not the institution encourages research-driven learning throughout architectural studies reflect a broad spectrum of opinions. Although most, a plurality, in fact (52.8%) of respondents agree or strongly agree with the statement, a sizeable segment (38.4%) disagree, indicating that research opportunities might not be universally presented or effectively highlighted. Furthermore, 8.8% have a neutral position, indicating potential differences in exposure to research initiatives. These findings underscore the value of investing in institutional approaches to research embedded pedagogies to allow students more access to speculative design activities and evidence-driven architecture.

**Table 4.85**

**There is sufficient scope for experimentation and innovative design thinking.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 46 | 18.4 | 18.4 | 18.4 |
| | Disagree | 62 | 24.8 | 24.8 | 43.2 |
| | Neither Agree nor disagree | 20 | 8.0 | 8.0 | 51.2 |
| | Agree | 78 | 31.2 | 31.2 | 82.4 |
| | Strongly Agree | 44 | 17.6 | 17.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.85**



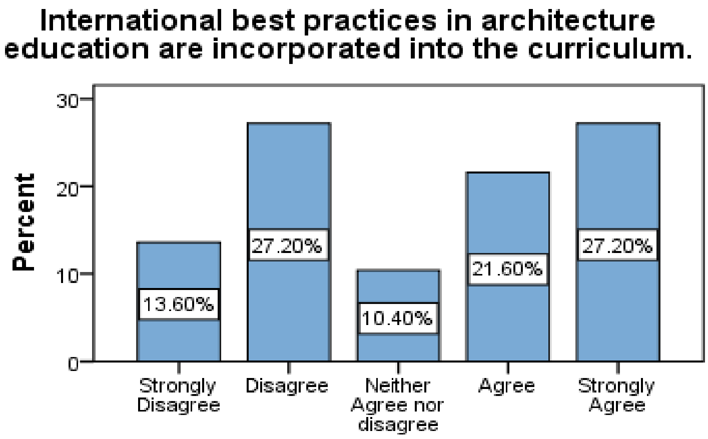

The responses relating to the degree of flexibility available for experimentation and out-of-the-box design thinking in the curriculum are both positive and negative. In contrast to this flexibility, 48.8% of respondents agree or strongly agree that there is sufficient room for creativity compared to 43.2% who disagree, suggesting that rigid structures or conventional methodologies could inhibit innovation. Out of total respondents, 8% are neutral, meaning that students have different expectations. Such results call for a more dynamic and open-ended approach in the schooling field: to provide students enough room to practice design thinking and inventive problem-solving methods inherent to architecture education.

**Table 4.86**

**International best practices in architecture education are incorporated into the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 34 | 13.6 | 13.6 | 13.6 |
| | Disagree | 68 | 27.2 | 27.2 | 40.8 |
| | Neither Agree nor disagree | 26 | 10.4 | 10.4 | 51.2 |
| | Agree | 54 | 21.6 | 21.6 | 72.8 |
| | Strongly Agree | 68 | 27.2 | 27.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.86**



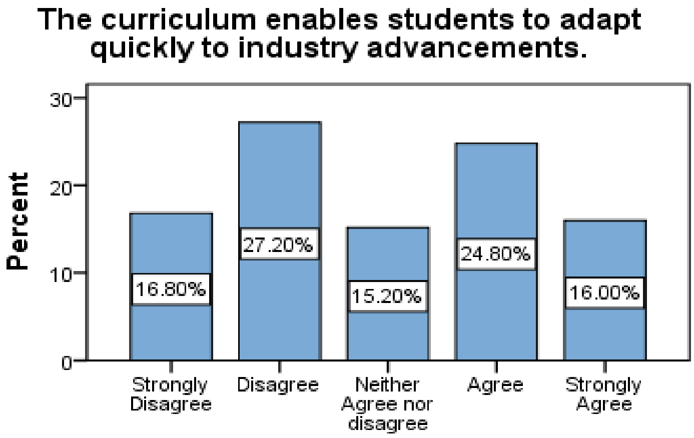

The results show a split perception on the issue of whether international best practices have been integrated into architecture education. 48.8% of respondents agree or strongly agree about global standards integration in their curriculum while a considerable 40.8% disagree with that, indicating that the curriculum might not yet be in sync with global evolution and standards. Also, 10.4% of students are neutral in their experience, indicating various experiences or levels of awareness among students. This knowledge is imperative to develop a systematic exposure platform that would provide global architectural trends and methodologies as well as real-world case studies relevant to the curriculum, which was one of the core objectives of this exercise.

**Table 4.87**

**The curriculum enables students to adapt quickly to industry advancements.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 42 | 16.8 | 16.8 | 16.8 |
| | Disagree | 68 | 27.2 | 27.2 | 44.0 |
| | Neither Agree nor disagree | 38 | 15.2 | 15.2 | 59.2 |
| | Agree | 62 | 24.8 | 24.8 | 84.0 |
| | Strongly Agree | 40 | 16.0 | 16.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.87**



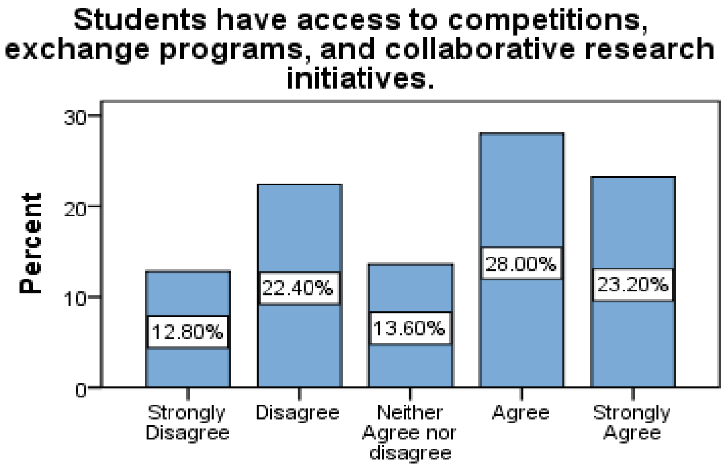

Survey responses show a split on whether the curriculum gives students the tools they need to keep pace with industry developments. Only 40.8% of respondents agree/strongly agree that the curriculum enables adaptability, while a significant 44% disagree, suggesting that it is not responsive to changing needs in the industry. A further 15.2% of students are neutral further indicating the lack of consensus or varying experience. These findings also suggest a need for constant updates and improvements in architecture curriculum; for raising the awareness of emerging trends in the industry; and for strengthening collaborations between academia and industry for developing architecture graduates with a competitive edge in the evolving architecture landscape.

**Table 4.88**

**Students have access to competitions, exchange programs, and collaborative research initiatives.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 32 | 12.8 | 12.8 | 12.8 |
| | Disagree | 56 | 22.4 | 22.4 | 35.2 |
| | Neither Agree nor disagree | 34 | 13.6 | 13.6 | 48.8 |
| | Agree | 70 | 28.0 | 28.0 | 76.8 |
| | Strongly Agree | 58 | 23.2 | 23.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figurer 4.88**




Survey responses show a more diverse perspective on students' access to competitions, exchange programs and collaborative research initiatives. With 51.2% in agreement with the statement and 35.2% indicating disagreement. The rest (13.6%) remain neutral indicating a use case where these initiatives have limited personal experience or knowledge. These findings underscore the importance of institutions doing a better job of making sure such programs are visible, inclusive and useful for students of all backgrounds.

### 4.3.4 Effectiveness of Practical Training and Skill Development

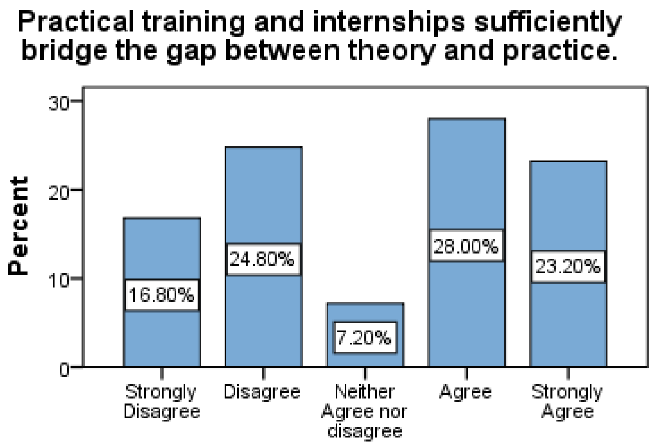
Hands-on training, making sure students know how to apply their skills in the architecture industry. Such a training program fills the gap between the studied theory and what the industry demands; students gain their practical experience in design, construction techniques, project management, and the latest technological know-how. These programs include internships, workshops, industry-extension services, and research-related learning opportunities that have been proven to ameliorate problem-solving skills and creative thinking among the students in the higher educational institutions. Insights into how these programs work allow us to evaluate how effective the program is for developing curriculum that meets the needs of professional readiness with respect to rising industry trends.

**Table 4.89**

**Practical training and internships sufficiently bridge the gap between theory and practice.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 42 | 16.8 | 16.8 | 16.8 |
| | Disagree | 62 | 24.8 | 24.8 | 41.6 |
| | Neither Agree nor disagree | 18 | 7.2 | 7.2 | 48.8 |
| | Agree | 70 | 28.0 | 28.0 | 76.8 |
| | Strongly Agree | 58 | 23.2 | 23.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.89**




The response to how effective practical training and internships were in bridging theory and practice in architectural education was mixed. Of those surveyed, 51.2% agree or strongly agree that these structural supports were adequate, but 41.6% disagree, suggesting there is some dissatisfaction with the availability of hands-on learning experiences. Moreover, 7.2% are neutral which shows that some students have different experiences or are not exposed to practical training enough perhaps. The study highlights the importance of modifying intern programs within institutions to ensure that theory taught is applied in the workplace by the students in order to better prepare students for job performance.

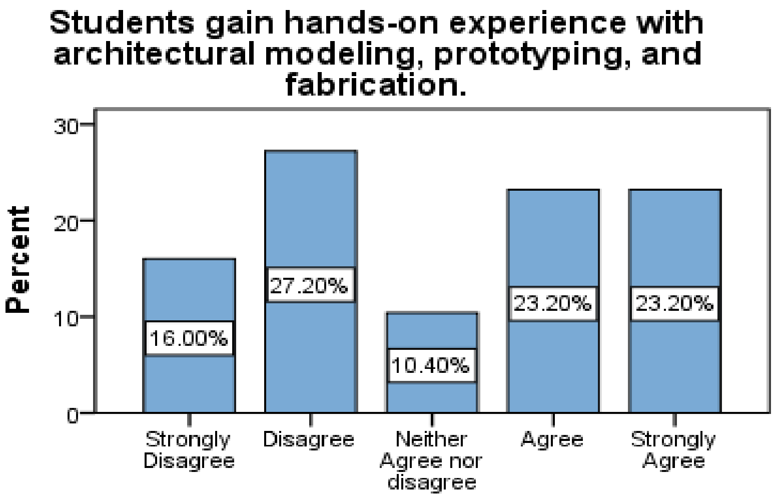
**Table 4.90**

**Students gain hands-on experience with architectural modeling, prototyping, and fabrication.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 16.0 | 16.0 | 16.0 |
| | Disagree | 68 | 27.2 | 27.2 | 43.2 |
| | Neither Agree nor disagree | 26 | 10.4 | 10.4 | 53.6 |
| | Agree | 58 | 23.2 | 23.2 | 76.8 |
| | Strongly Agree | 58 | 23.2 | 23.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

252

**Figure 4.90**



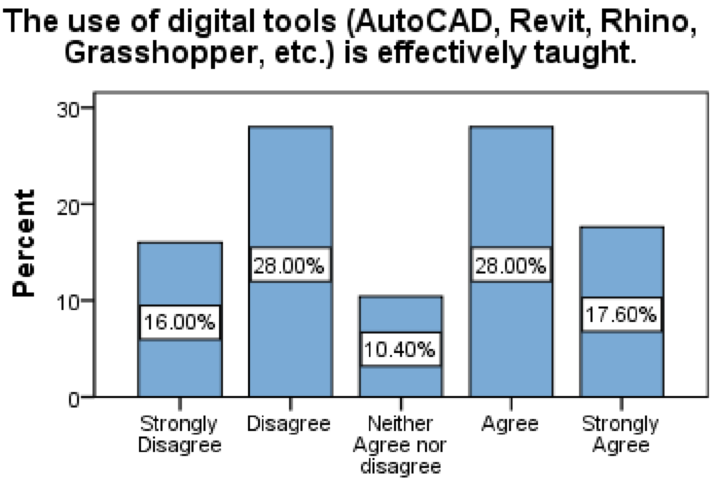

However, hands-on experience with architectural modeling, prototyping and fabrication generated a much broader spectrum of responses. 46.4% respondents either agreed or strongly agreed that the students are getting adequate practical exposure, whereas 43.2% of respondents disagreed or strongly disagreed when asked whether adequate exposure is given to the students. In fact, 10.4% of the respondents were neutral, indicating some uncertainty in perceptions. This shows a lack of skills training, emphasizing the importance of increasing the availability of such opportunities for the students to gain significant industry-relevant skills.

**Table 4.91**

**The use of digital tools (AutoCAD, Revit, Rhino, Grasshopper, etc.) is effectively taught.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 16.0 | 16.0 | 16.0 |
| | Disagree | 70 | 28.0 | 28.0 | 44.0 |
| | Neither Agree nor disagree | 26 | 10.4 | 10.4 | 54.4 |
| | Agree | 70 | 28.0 | 28.0 | 82.4 |
| | Strongly Agree | 44 | 17.6 | 17.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.91**



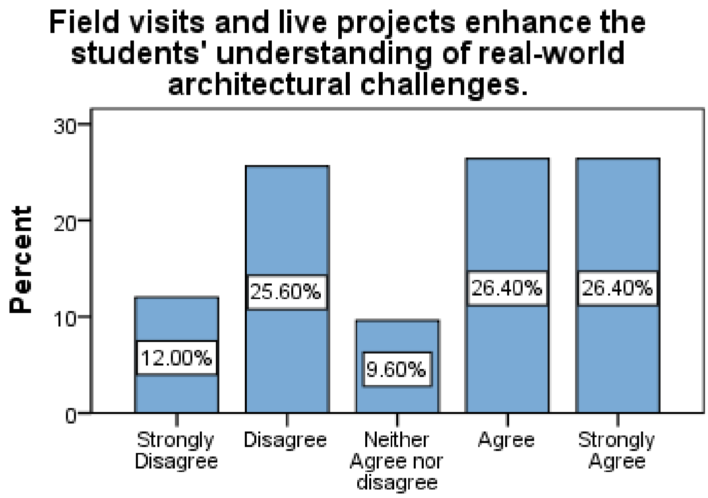

Responses to the teaching effectiveness of digital tools AutoCAD, Revit, Rhino, and Grasshopper show variation in perception. Though 45.6% of respondents agreed or strongly agreed with the statement that these tools are being effectively taught, a sizeable 44% of participants disagreed, implying that there may be deficiencies in the instruction of digital tools. Moreover, 10.4% of the respondents reported a neither-nor experience, suggesting uncertainty and experience variability on the matter. These results emphasize the potential for improvements in the delivery of digital education to guarantee that students learn to use vital software associated with architecture.

**Table 4.92**

**Field visits and live projects enhance the students' understanding of real-world architectural challenges.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 30 | 12.0 | 12.0 | 12.0 |
| | Disagree | 64 | 25.6 | 25.6 | 37.6 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 47.2 |
| | Agree | 66 | 26.4 | 26.4 | 73.6 |
| | Strongly Agree | 66 | 26.4 | 26.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.92**



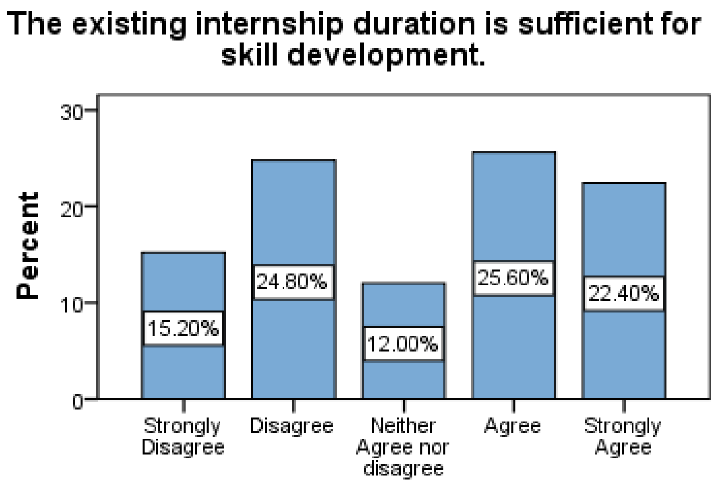

Survey responses regarding the impact of field visits and live projects on architecture education: Although a majority of the respondents (52.8% agreed or strongly agreed) stated that these experiential learning methods (such as architectural design competitions and internships) improve students' understanding of real-world architectural problems, almost as many disagreed (37.6%). Another 9.6% remained neutral, indicating variation in the effectiveness or implementation of such initiatives. The findings reiterate the importance of further strengthening application and exposure-based learning with better field visits and live projects to translate theory into practice.

**Table 4.93**

**The existing internship duration is sufficient for skill development.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 38 | 15.2 | 15.2 | 15.2 |
| | Disagree | 62 | 24.8 | 24.8 | 40.0 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 52.0 |
| | Agree | 64 | 25.6 | 25.6 | 77.6 |
| | Strongly Agree | 56 | 22.4 | 22.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.93**



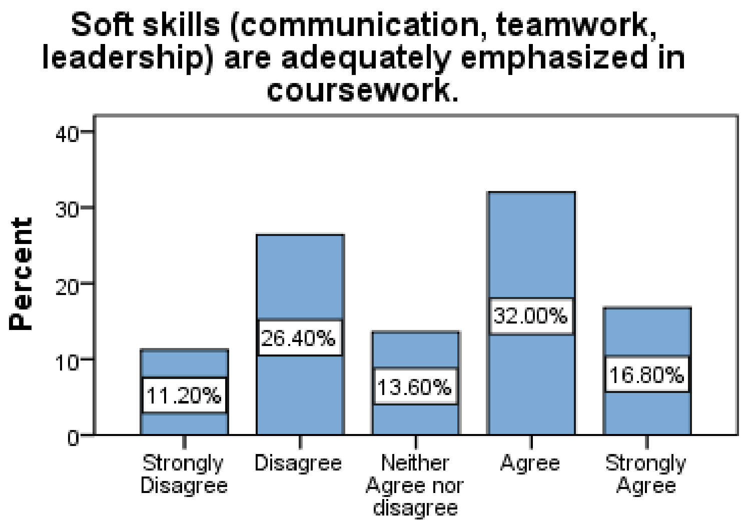

Generally, the existing duration of the internship was found adequate for learning and improving the skills. 48% of respondents indicated agree or strong agree the duration is enough and a significant 40% of people disagreed which confirms that several think that duration may not be enough for full skill acquisition. And else 12% neutral, showing indeterminacy of experience. These insights suggest reviewing internship arrangements, similar to what was done in earlier years, to ensure students get ample opportunities to gain relevant skills and industry knowledge.

**Table 4.94**

**Soft skills (communication, teamwork, leadership) are adequately emphasized in coursework.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 28 | 11.2 | 11.2 | 11.2 |
| | Disagree | 66 | 26.4 | 26.4 | 37.6 |
| | Neither Agree nor disagree | 34 | 13.6 | 13.6 | 51.2 |
| | Agree | 80 | 32.0 | 32.0 | 83.2 |
| | Strongly Agree | 42 | 16.8 | 16.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.94**



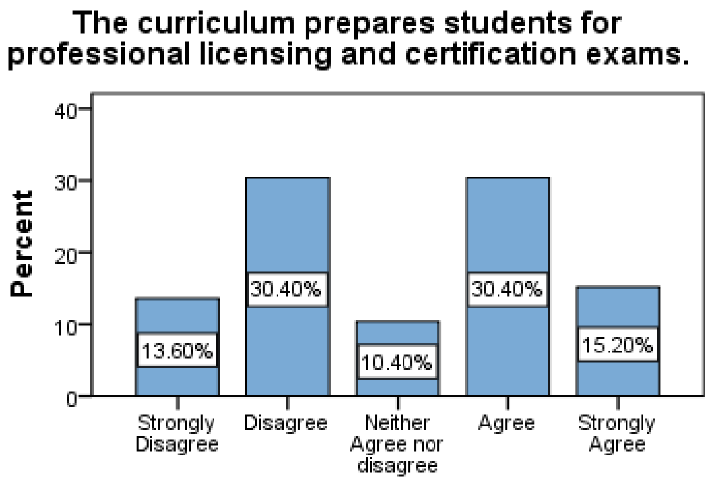

The results of the survey about how much soft skills are emphasized in coursework are somewhat divided. While 48.8% of respondents agreed or strongly agreed that adequate emphasis is placed on communication, teamwork, and leadership, a significant population (37.6%) disagreed, indicating potential shortcomings in the curriculum. And a further 13.6% were neutral, which would mean varied experiences for students. The results indicate that integration of soft skills training into the courses is essential to prepare the students for effective interaction and taking leadership roles in industry.

**Table 4.95**

**The curriculum prepares students for professional licensing and certification exams.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 34 | 13.6 | 13.6 | 13.6 |
| | Disagree | 76 | 30.4 | 30.4 | 44.0 |
| | Neither Agree nor disagree | 26 | 10.4 | 10.4 | 54.4 |
| | Agree | 76 | 30.4 | 30.4 | 84.8 |
| | Strongly Agree | 38 | 15.2 | 15.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.95**



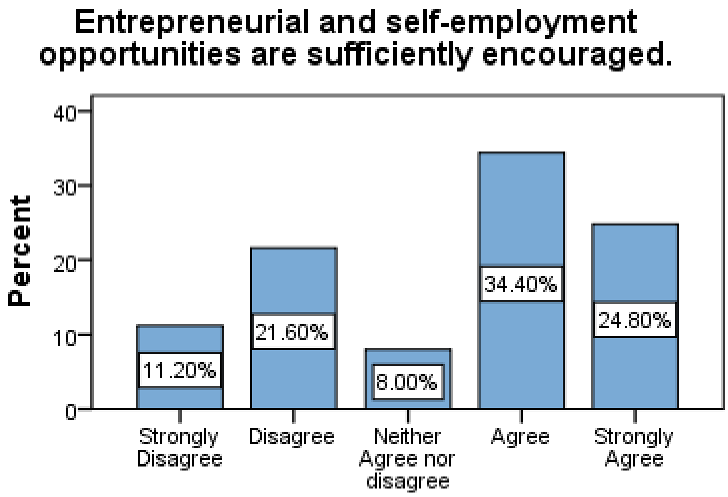

Half of respondents agreed that the curriculum prepared students for professional licensing and certification exams; an equal number disagreed. 45.6% of respondents agreeing or strongly agreeing that the curriculum does prepare you for exams, with 44% disagreeing, suggesting a inadequacy in preparation. A total of 10.4% were neutral, indicating some uncertainty regarding sufficiently effective exam-oriented training. This suggests a need for curriculum improvement, including but not limited to, preparatory modules, workshops, or advisory sessions targeted at providing students with the right assistance to prepare for the professional certifications.

**Table 4.96**

**Entrepreneurial and self-employment opportunities are sufficiently encouraged.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 28 | 11.2 | 11.2 | 11.2 |
| | Disagree | 54 | 21.6 | 21.6 | 32.8 |
| | Neither Agree nor disagree | 20 | 8.0 | 8.0 | 40.8 |
| | Agree | 86 | 34.4 | 34.4 | 75.2 |
| | Strongly Agree | 62 | 24.8 | 24.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.96**



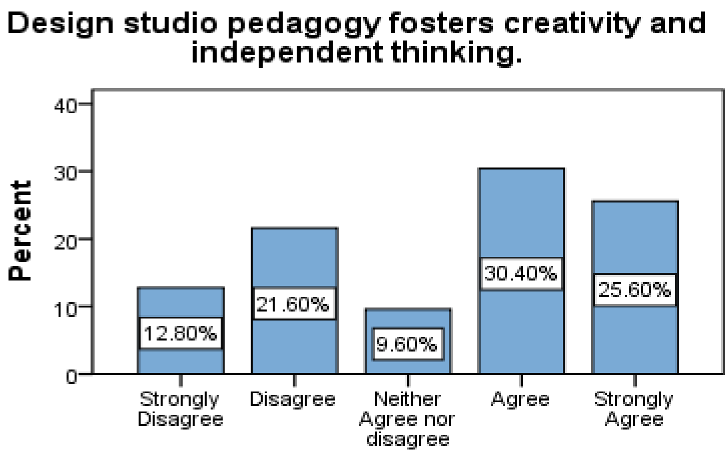

The survey findings indicate that entrepreneurship and self-employment are relatively well supported  in the curriculum. Respondents were positive about these opportunities being encouraged, with 59.2% agreeing or strongly agreeing that they are sufficiently encouraged. However, 32.8% disagreed, suggesting that there might still be room for improvement in nurturing entrepreneurial skills. On the other hand, 8% were neutral, which might indicate little clarity or knowledge of support available. These insights point to the importance of yellowing new strategies and programs for students including skills  to enhance self-employment opportunities and entrepreneurship.

**Table 4.97**

**Design studio pedagogy fosters creativity and independent thinking.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 32 | 12.8 | 12.8 | 12.8 |
| | Disagree | 54 | 21.6 | 21.6 | 34.4 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 44.0 |
| | Agree | 76 | 30.4 | 30.4 | 74.4 |
| | Strongly Agree | 64 | 25.6 | 25.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.97**



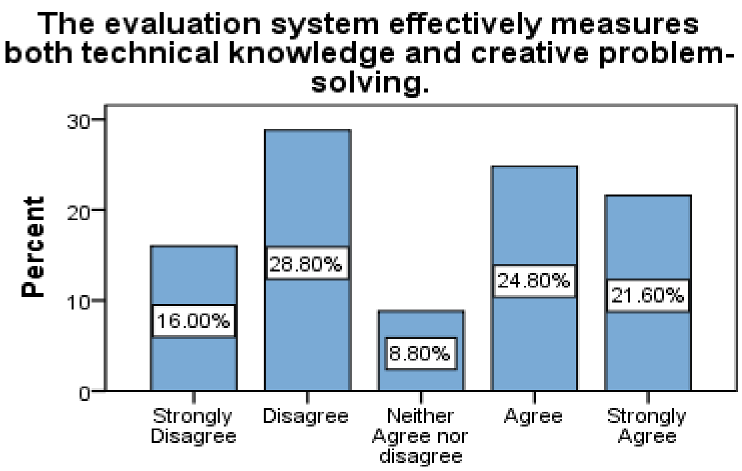

The survey shows that the design studio pedagogy is largely successful in developing creativity and autonomous thinking. 56% of respondents either agreed or strongly agreed with this statement, implying that the teaching method & style facilitate innovation and self-learning. On the other hand, 34.4% of respondents disagreed agreeing on this aspect, showing room for growing in the way creativity is built. As well as 9.6% so neutral, meaning that it's maybe very different for the students. Hence, the pedagogy is helpful; however, more needs to be improved in teaching strategies and teaching resources.

**Table 4.98**

**The evaluation system effectively measures both technical knowledge and creative problem-solving.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 40 | 16.0 | 16.0 | 16.0 |
| | Disagree | 72 | 28.8 | 28.8 | 44.8 |
| | Neither Agree nor disagree | 22 | 8.8 | 8.8 | 53.6 |
| | Agree | 62 | 24.8 | 24.8 | 78.4 |
| | Strongly Agree | 54 | 21.6 | 21.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.98**




The survey consisted of a series of questions designed to gather information about the participants' perspectives on the evaluation system's measures of technical knowledge and creative problem-solving capabilities. Although 46.4% replied either agree or strongly agree that the system effectively assesses these, a non-negligible (44.8%) replied either disagree or strongly disagree implying that there are doubts towards its adequacy. Another 8.8% responded somewhere in the neutral space. This can be important to cancel out the false implication of two different determinants on technical model assessment and creativity-oriented architecture.

### 4.3.5 Challenges in Adopting Modern Technologies in Architectural Education

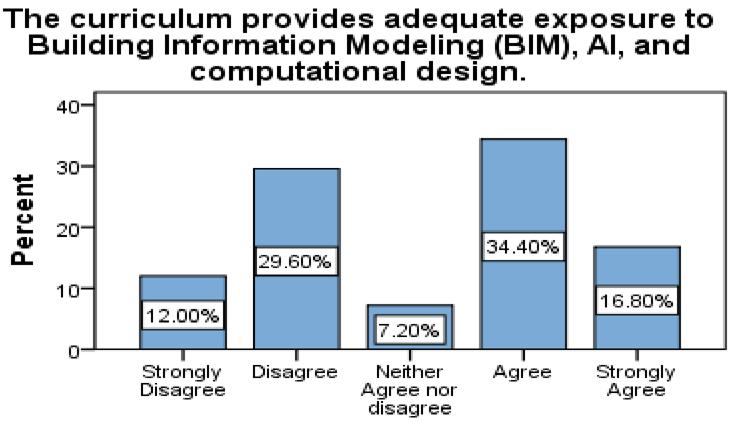
Technological advancements can have a profound impact on architectural education, incorporating digital tools, automation, and immersive design methodologies into the inherent learning process. Though such innovations provide tremendous prospects for expanding creativity, efficiency, and project-based skills, their integration towards architectural pedagogy faces multiple hurdles. However, institutions encounter challenges in deploying cognitive technologies, including the significant cost of acquiring and maintaining advanced software and hardware, the need for continuous training for faculty members, and resistance to change among educators and students. Moreover, the uneven availability of digital resources, insufficient infrastructure, and the high learning curve of emerging technologies like artificial intelligence (AI), parametric design, and virtual reality (VR) all contribute to barriers in smooth integration. This research investigates the main impediments to implementing contemporary technologies in the architectural education field and analyzes some approaches to circumventing those issues and making students aligned with the essential industrial requirements.

**Table 4.99**

**The curriculum provides adequate exposure to Building Information Modeling (BIM), AI, and computational design.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 30 | 12.0 | 12.0 | 12.0 |
| | Disagree | 74 | 29.6 | 29.6 | 41.6 |
| | Neither Agree nor disagree | 18 | 7.2 | 7.2 | 48.8 |
| | Agree | 86 | 34.4 | 34.4 | 83.2 |
| | Strongly Agree | 42 | 16.8 | 16.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.99**



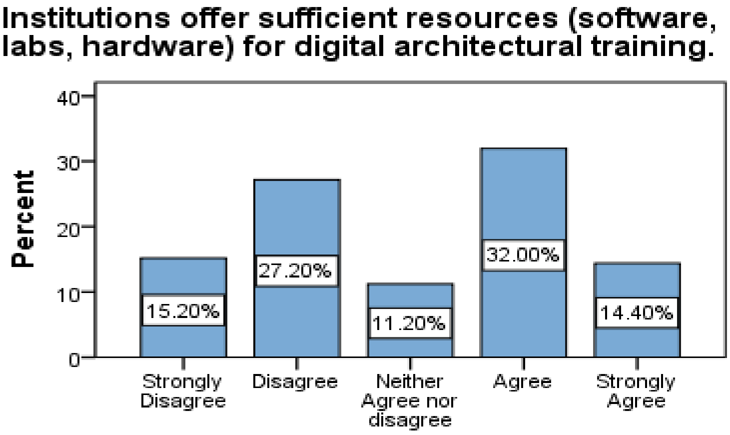

It is evident from the survey data that there is a mixed perception of adequate exposure to Building Information Modelling (BIM), AI and computational design within the curriculum. There is, however, a vast portion of the respondents agreeing (34.4% Agree and 16.8% strongly Agree) that the modern technological tools necessary for the course are being provided, although others do (29.6% Disagree and 12.0% Strongly Disagree) seek alternative resources. A minority (7.2%) stand neutral, indicating some ambiguity or inconsistency in experiences. The findings underscore the importance of dynamic content development for the use of these technologies in architectural education, in order to prepare students for the requirements of the industry.

**Table 4.100**

**Institutions offer sufficient resources (software, labs, hardware) for digital architectural training.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 38 | 15.2 | 15.2 | 15.2 |
| | Disagree | 68 | 27.2 | 27.2 | 42.4 |
| | Neither Agree nor disagree | 28 | 11.2 | 11.2 | 53.6 |
| | Agree | 80 | 32.0 | 32.0 | 85.6 |
| | Strongly Agree | 36 | 14.4 | 14.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.100**



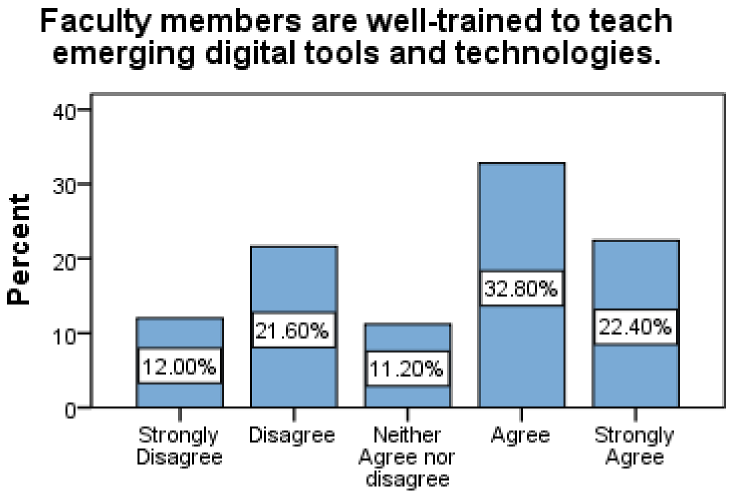

The survey results show different opinions about resource availability for digital architecture training. Though many agree (32.0% Agree & 14.4% Strongly Agree) that institutions offer adequate software, labs, and hardware, a notable portion (27.2% Disagree & 15.2% Strongly Disagree) feels that it is insufficient. In contrast, 11.2% have no opinion, suggesting some ambiguity or inconsistency in resource accessibility. What is common to observe in the latter scenario is that even if institutions do take at least some part in providing digital training, not many people are adept in utilizing these tools due to a lack of technical prowess, indicating that more investment in technological infrastructure is required to make institutions future-ready.

**Table 4.101**

**Faculty members are well-trained to teach emerging digital tools and technologies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 30 | 12.0 | 12.0 | 12.0 |
| | Disagree | 54 | 21.6 | 21.6 | 33.6 |
| | Neither Agree nor disagree | 28 | 11.2 | 11.2 | 44.8 |
| | Agree | 82 | 32.8 | 32.8 | 77.6 |
| | Strongly Agree | 56 | 22.4 | 22.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.101**



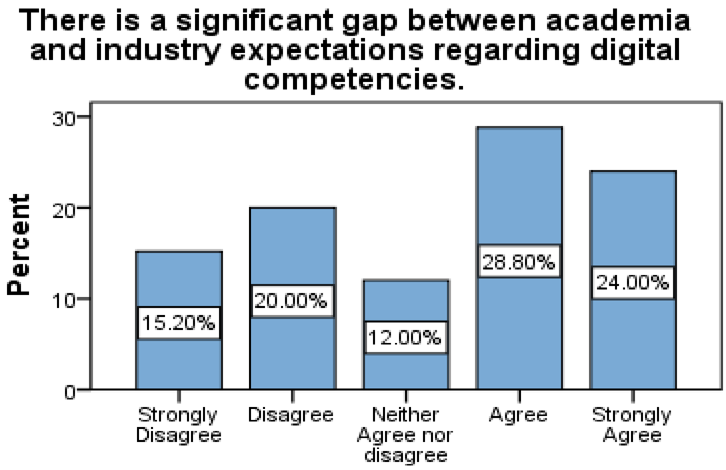

Multiple items in the survey reflected perceptions of whether faculty were prepared to teach emerging digital tools and technologies. A large part of the respondents (32.8% Agree and 22.4% Strongly Agree) agree that Faculty are adequately trained, whereas many others (21.6% Disagree and 12.0% Strongly Disagree) was also concerned about the competence of Faculty in this regard. 11.2% of respondents are neutral, indicating a lack of clarity about the training level of faculty. These findings highlight the necessity of continual professional development and upskilling programs to keep faculty members up to date with the emerging digital technologies in architectural education.

**Table 4.102**

**There is a significant gap between academia and industry expectations regarding digital competencies.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 38 | 15.2 | 15.2 | 15.2 |
| | Disagree | 50 | 20.0 | 20.0 | 35.2 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 47.2 |
| | Agree | 72 | 28.8 | 28.8 | 76.0 |
| | Strongly Agree | 60 | 24.0 | 24.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.102**



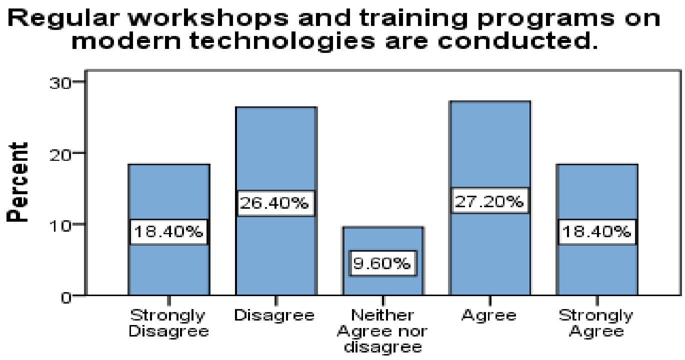

These results reveal a unambiguous contrast between academic and industry expectations for graduates' digital competencies in architectural education. A sizeable proportion of respondents do observe this gap (28.8% Agree and 24.0% Strongly Agree) but a substantial percentage (20.0% Disagree and 15.2% Strongly Disagree) believe that the disparity is not so evident. We have also 12.0% of neutral voters, which usually shows some ambivalence. This highlights the importance of academia-industry partnerships, where professionals work closely with educational institutions to keep up with the rapidly changing environment of data and work requirements.

**Table 4.103**

**Regular workshops and training programs on modern technologies are conducted.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 46 | 18.4 | 18.4 | 18.4 |
| | Disagree | 66 | 26.4 | 26.4 | 44.8 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 54.4 |
| | Agree | 68 | 27.2 | 27.2 | 81.6 |
| | Strongly Agree | 46 | 18.4 | 18.4 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.103**



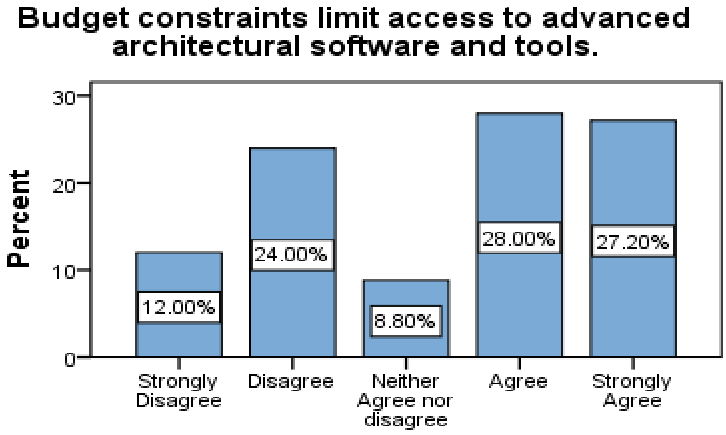

However, the response for the same also remains ambiguous as per the analytical results generated from the studied survey data, making it evident that the workshops and training programs on the modern technologies, to a certain extent, are less frequent in the architectural education. And while 27.2% Agree and 18.4% Strongly Agree that such programs are conducted regularly, a high percentage (26.4% Disagree and 18.4% Strongly Disagree) do not feel such initiatives are adequate. Meanwhile, 9.6% affirm neutrality (that's quite a high rate), which indicates some uncertainty or inconsistency regarding the availability of such training. These insights underscore the imperative for educational institutions to increase the frequency of such opportunities and the quality of workshops so students receive first-hand experience with cutting-edge architectural technologies.

**Table 4.104**

**Budget constraints limit access to advanced architectural software and tools.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 30 | 12.0 | 12.0 | 12.0 |
| | Disagree | 60 | 24.0 | 24.0 | 36.0 |
| | Neither Agree nor disagree | 22 | 8.8 | 8.8 | 44.8 |
| | Agree | 70 | 28.0 | 28.0 | 72.8 |
| | Strongly Agree | 68 | 27.2 | 27.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.104**



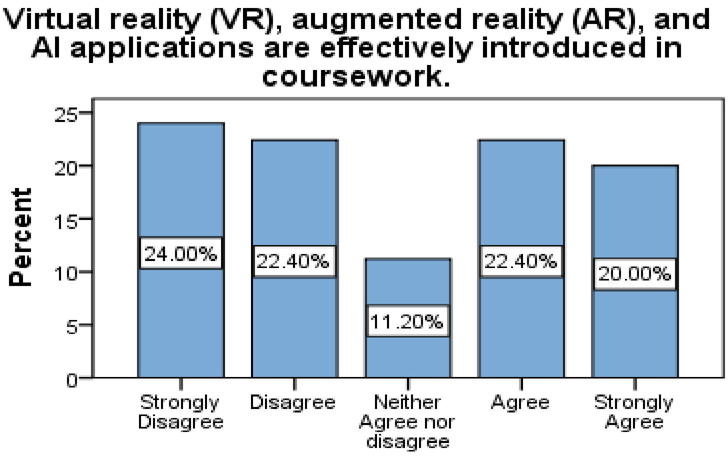

A preliminary analysis of the survey results shows different reactions about to what extent to budget limitations could affect access to cutting-edge architecture software and tools. However, even with 28% Agreeing and 27.2% Strongly Agreeing that financial concerns stop access, over a fifth (24%) Disagree and 12% Strongly Disagree, demonstrating that some institutions get by with enough funding. Meanwhile, 8.8% are neutral, which may reflect different capacities in terms of institutions. These findings underscore the importance of strategic investments and alternative solutions, including educational licensing agreements and cloud-based software, in bridging resource gaps and ensuring students receive meaningful digital training.

**Table 4.105**

**Virtual reality (VR), augmented reality (AR), and AI applications are effectively introduced in coursework.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 60 | 24.0 | 24.0 | 24.0 |
| | Disagree | 56 | 22.4 | 22.4 | 46.4 |
| | Neither Agree nor disagree | 28 | 11.2 | 11.2 | 57.6 |
| | Agree | 56 | 22.4 | 22.4 | 80.0 |
| | Strongly Agree | 50 | 20.0 | 20.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.105**



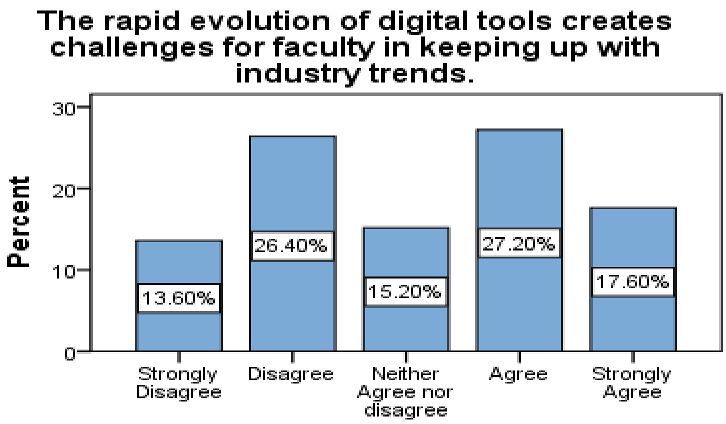

The survey results indicate that there are differing perceptions towards integrating VR, AR and AI applications in Architectural courses. Although 22.4% of respondents Agree and 20% Strongly Agree that these technologies are properly introduced, there is yet a large group 22.4% Disagree and 24% Strongly Disagree, suggesting that many institutions still face difficult implementations. At the same time, there are 11.2% neutral (that is an expression of uncertainty for the only or the different degree programs). The need for better curriculum development, faculty training, and investment in technological resources is demonstrated by the fact that architectural education does not provide adequate exposure to new digital tools.

**Table 4.106**

**The rapid evolution of digital tools creates challenges for faculty in keeping up with industry trends.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 34 | 13.6 | 13.6 | 13.6 |
| | Disagree | 66 | 26.4 | 26.4 | 40.0 |
| | Neither Agree nor disagree | 38 | 15.2 | 15.2 | 55.2 |
| | Agree | 68 | 27.2 | 27.2 | 82.4 |
| | Strongly Agree | 44 | 17.6 | 17.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.106**



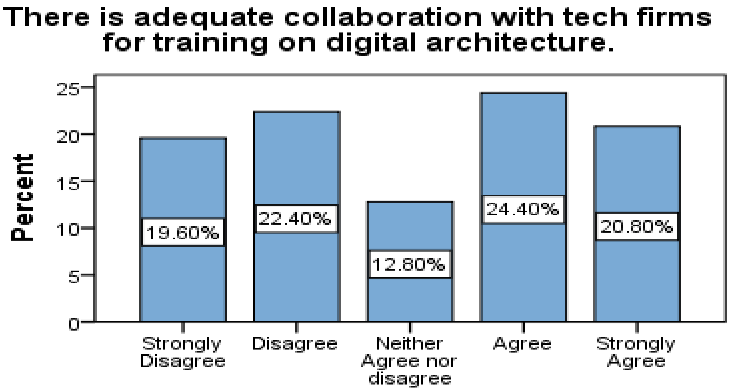

The recent survey results suggest that keeping pace with the fast-changing world of digital tools and industry trends presents significant challenges to faculty members. First, while 27.2% Agree (17.6% Strongly) this is a big issue, a fair number, 26.4% Disagree (13.6% Strongly), suggests that some institutions might be doing a good job of training faculty. 15.2% of respondents selected neutral, which may also indicate that the level of preparedness may vary by institution. These findings highlight the importance of ongoing professional development, collaboration with the industry, support from industry professionals, and structured training programs to support and empower educators to be aware of technological advancements in architectural education.

**Table 4.107**

**There is adequate collaboration with tech firms for training on digital architecture.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 49 | 19.6 | 19.6 | 19.6 |
| | Disagree | 56 | 22.4 | 22.4 | 42.0 |
| | Neither Agree nor disagree | 32 | 12.8 | 12.8 | 54.8 |
| | Agree | 61 | 24.4 | 24.4 | 79.2 |
| | Strongly Agree | 52 | 20.8 | 20.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.107**



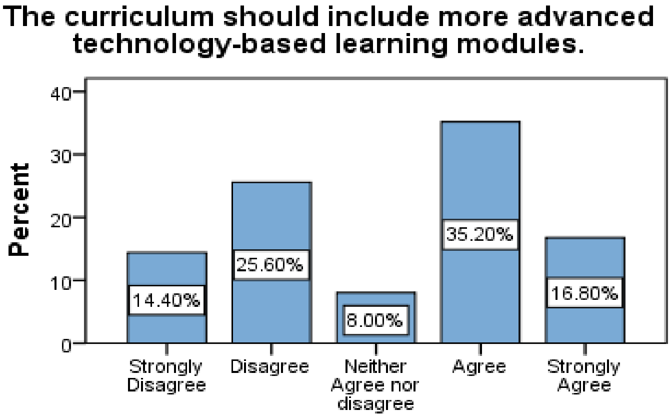

The survey demonstrates this variety of a perspective when it comes to co-operation between schools and tech companies in training for digital architecture. And while over a third of participants (24.4% Agree and 20.8% Strongly Agree) feel that such collaborations do exist, a sizeable percentage (22.4% Disagree and 19.6% Strongly Disagree) shows that there are holes in the partnerships within the industry. Also, 12.8% of the participants are neutral, which may indicate that the degree of collaboration takes different levels according to the institutions. Such results would need better colonization of the industry-academia linkages, and better collaboration by technology companies as well as access to suitable digital tools with practical hands-on experience for students in architecture.

**Table 4.108**

**The curriculum should include more advanced technology-based learning modules.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 36 | 14.4 | 14.4 | 14.4 |
| | Disagree | 64 | 25.6 | 25.6 | 40.0 |
| | Neither Agree nor disagree | 20 | 8.0 | 8.0 | 48.0 |
| | Agree | 88 | 35.2 | 35.2 | 83.2 |
| | Strongly Agree | 42 | 16.8 | 16.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.108**




These results demonstrate a clear desire to incorporate more advanced technology-based learning modules into the architectural curriculum. The need for an increased emphasis on technology integration is met with the following response from survey participants: 35.2% Affirm and 16.8% Strongly Affirm this need; however, a significant proportion, 25.6% Disagree and 14.4% Strongly Disagree, indicates there are those that believe the existing curriculum may be sufficient. 8.0% of respondents are neutral. The findings underscore the need for institutions to take stock of the changing role of digital tools in architectural education, ensuring that students remain adept with the latest technology while maintaining traditional design sensibilities.

### 4.3.6 Possible Role of NEP 2020 in Curriculum Restructuring

This will bring the educational standards at par with the International standards while ensuring multidimensional development of a child in the form of National Education Policy (NEP) 2020. NEP 2020 aims to narrow this gap by placing an emphasis on flexibility, interdisciplinary learning, and skill development. Its one of the key focus area is curriculum restructuring which mandates educational institutions to embrace a holistic education system that promotes creativity, critical thinking and effective problem-solving abilities.

NEP 2020 calls for the integration of emerging technologies, digital tools, and experiential learning methodologies into higher education, which includes domains like architecture, engineering, and business studies. The policy aims to make curricula more dynamic, inclusive, and relevant to the needs of the 21st century by promoting competency-based education, which also weakens rigid and siloed disciplinary boundaries, motivating many institutions to rethink their curricula and offer a mix of courses from different fields. As well as these skills, it focuses on vocational training, internships, and collaborations with the industry that can provide students with the chance to gain experience and increase their employability.

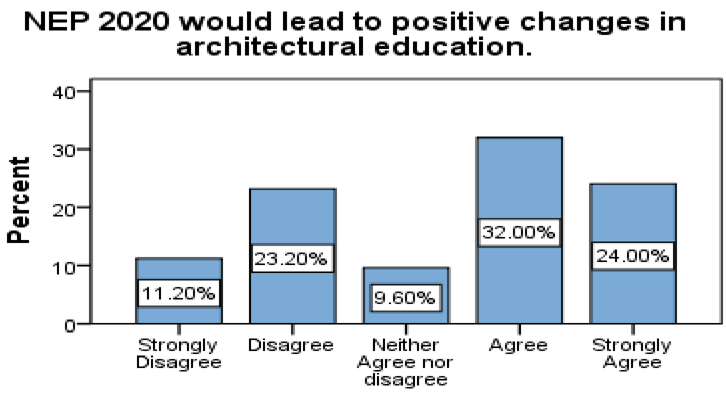
This study studies the significance of NEP 2020 in restructuring the curriculum and highlights its implications on curriculum together with its design, implementation and outcome of the revised curriculum. The report also explores the challenges and opportunities that this transformation brings, and how institutions might effectively incorporate the policy's directives to build a future-ready education system.

**Table 4.109**

**NEP 2020 would lead to positive changes in architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 28 | 11.2 | 11.2 | 11.2 |
| | Disagree | 58 | 23.2 | 23.2 | 34.4 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 44.0 |
| | Agree | 80 | 32.0 | 32.0 | 76.0 |
| | Strongly Agree | 60 | 24.0 | 24.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.109**



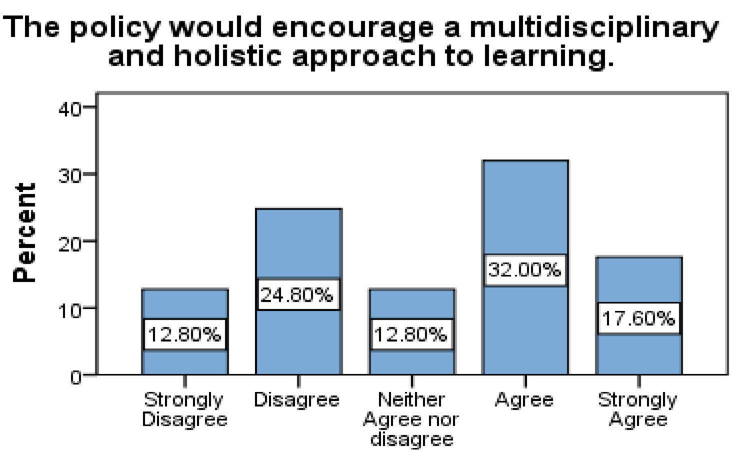
Outcomes from the survey show that 56% of the respondents either agree or strongly agree that NEP 2020 will yield a transformational impact in architectural education and which is indeed optimistic for curriculum reforms and modernization of the teaching-learning environment. Nevertheless, 34.4% of participants expressed disagreement or strong disagreement, indicating potential reservations or doubts about its efficacy. A similar smaller chunk (9.6%) are still undecided, once again leaving us clueless to say what impact NEP 2020 will have on Architectural Education. These conclusions denote a broad tendency towards approval while identifying aspects where enhancements or additional definition may be required in the application of the policy.

**Table 4.110**

**The policy would encourage a multidisciplinary and holistic approach to learning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 32 | 12.8 | 12.8 | 12.8 |
| | Disagree | 62 | 24.8 | 24.8 | 37.6 |
| | Neither Agree nor disagree | 32 | 12.8 | 12.8 | 50.4 |
| | Agree | 80 | 32.0 | 32.0 | 82.4 |
| | Strongly Agree | 44 | 17.6 | 17.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.110**



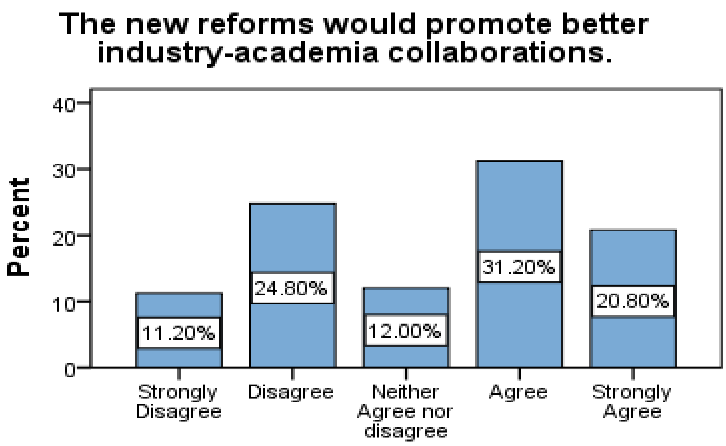
NEP 2020 is also believed by 49.6% of the respondents to promote a multidisciplinary-holistic approach towards learning as indicated by strong agreement by the majority of the participants, demonstrating favourable views towards educational reform. But scepticism exists too, as 37.6% disagree or strongly disagree with intent, meaning they doubt that the situation would improve for better. Moreover, 12.8% are neutral, indicating that there is still some uncertainty or unawareness around the policy's influence. These diverse outcomes echo a bifurcated attitude, where some emerged with a definite preference for such education but a demand for knowledge on the pragmatic value that NEP 2020 can offer in multidisciplinary education.

**Table 4.111**

**The new reforms would promote better industry-academia collaborations.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 28 | 11.2 | 11.2 | 11.2 |
| | Disagree | 62 | 24.8 | 24.8 | 36.0 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 48.0 |
| | Agree | 78 | 31.2 | 31.2 | 79.2 |
| | Strongly Agree | 52 | 20.8 | 20.8 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.111**



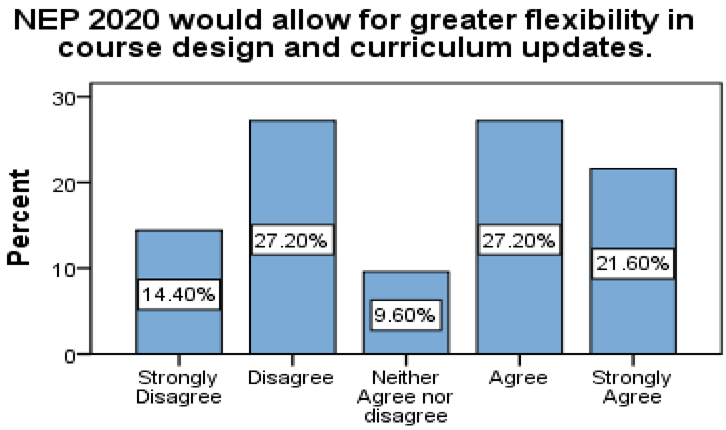
The survey results show that 52% of respondents agree or strongly agree that the implementation of new reforms post the NEP 2020 will improve the industry-academia link, again suggesting optimism towards bridging the gap between academics and industry professionals. However, 36% of participants disagree with this statement as concerns emerge related to the practical realization of these collaborations. At the same time, 12% of respondents remain neutral, whether due to uncertainty or a wait-and-see mentality. The findings reflect a broadly hopeful view of how NEP 2020 could boost engagement with industry in education, but also indicate an urgent need for greater clarity around how these challenges will be met.

**Table 4.112**

**NEP 2020 would allow for greater flexibility in course design and curriculum updates.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 36 | 14.4 | 14.4 | 14.4 |
| | Disagree | 68 | 27.2 | 27.2 | 41.6 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 51.2 |
| | Agree | 68 | 27.2 | 27.2 | 78.4 |
| | Strongly Agree | 54 | 21.6 | 21.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.112**



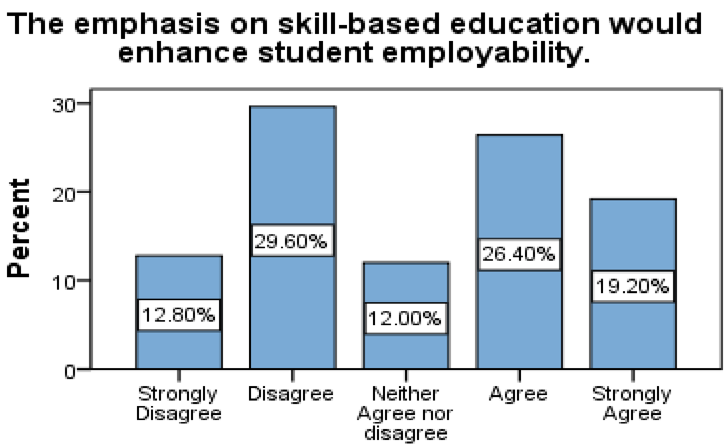
NEP 2020 is being viewed as a double-edged sword enabling flexibility during course design and curriculum revision, as the survey responses show. Even though 48.8% of respondents either agree or strongly agree that the policy would lead to a greater ability to adapt curriculum structuring, a sizable 41.6% say the opposite, showing there's heavy speculation of how this policy would be put into place. 9.6% are neutral, indicating that there is some uncertainty over the flexibility. Here, our findings identified both positive experiences and areas of concern, illustrating that well-defined frameworks with clear guidelines, followed by effective implementation, are essential to achieving the benefits of such flexibility.

**Table 4.113**

**The emphasis on skill-based education would enhance student employability.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 32 | 12.8 | 12.8 | 12.8 |
| | Disagree | 74 | 29.6 | 29.6 | 42.4 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 54.4 |
| | Agree | 66 | 26.4 | 26.4 | 80.8 |
| | Strongly Agree | 48 | 19.2 | 19.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.113**



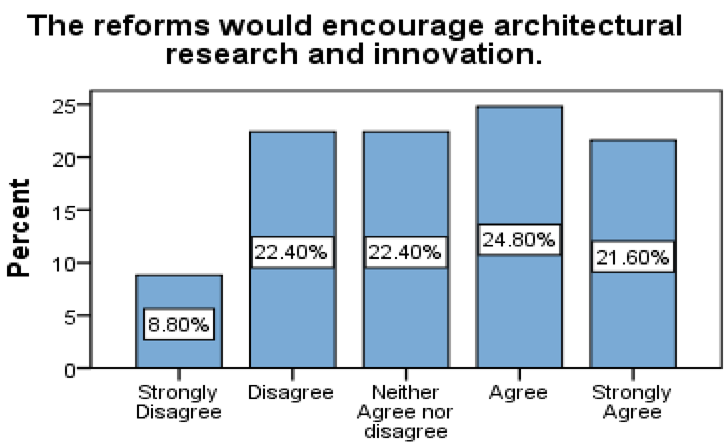
The survey responses suggest varied perspectives on the potential employment benefits of skill-based education under NEP 2020. However, with a concerning 42.4% of respondents disagreeing or strongly disagreeing, it may indicate a prevalent uncertainty of a practical-oriented policy strongly bridging the gap between education and industry expectations. 12% are undecided, indicating uncertainty about its real world impact. These findings underline the need for robust industry ties and effective implementation strategies to translate skill-based education into enhanced employability outcomes.

**Table 4.114**

**The reforms would encourage architectural research and innovation.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 22 | 8.8 | 8.8 | 8.8 |
| | Disagree | 56 | 22.4 | 22.4 | 31.2 |
| | Neither Agree nor disagree | 56 | 22.4 | 22.4 | 53.6 |
| | Agree | 62 | 24.8 | 24.8 | 78.4 |
| | Strongly Agree | 54 | 21.6 | 21.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.114**



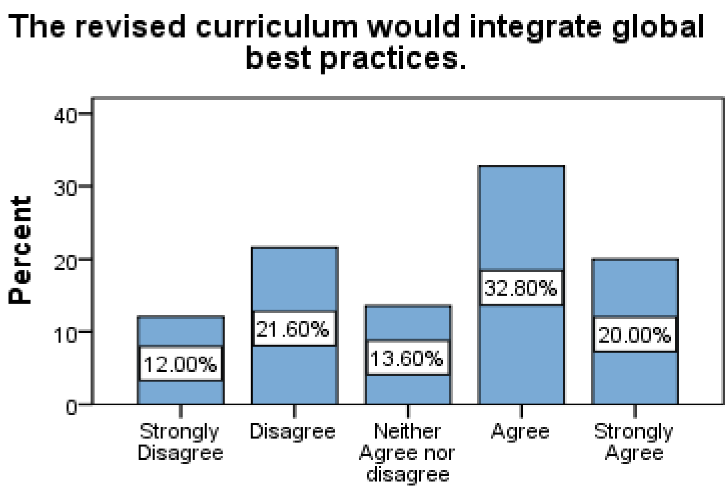
There are mixed responses regarding whether the reforms empowered by NEP 2020 would lead to architectural research and innovation. A polarizing aspect of the policy is its potential to promote research-oriented learning, with 46.4% of respondents agreeing or strongly agreeing with this perspective, yet a notable 31.2% disagreeing, perhaps indicating uncertainty regarding access or implementation. There is still 22.4% which are sitting on the fence, indicating the fact that it is unsure on how it will affect the business in real terms. Finally, these results emphasize the importance of robust research infrastructure and funding, as well as industry collaboration, to drive innovation effectively in architectural education.

**Table 4.115**

**The revised curriculum would integrate global best practices.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 30 | 12.0 | 12.0 | 12.0 |
| | Disagree | 54 | 21.6 | 21.6 | 33.6 |
| | Neither Agree nor disagree | 34 | 13.6 | 13.6 | 47.2 |
| | Agree | 82 | 32.8 | 32.8 | 80.0 |
| | Strongly Agree | 50 | 20.0 | 20.0 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.115**



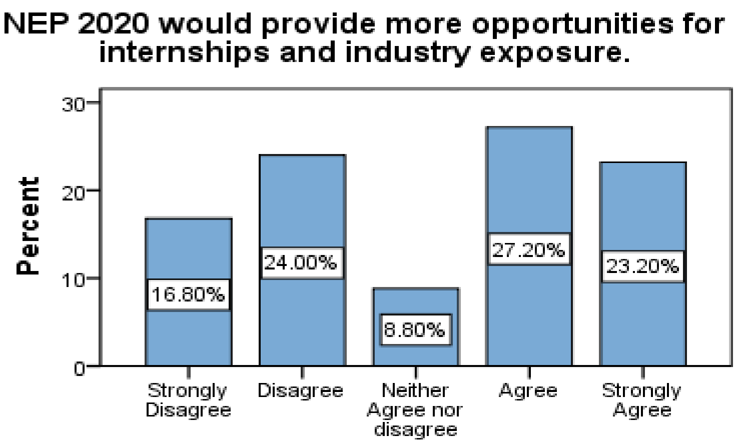
52.8 % of the respondents expect that the revised curriculum under NEP 2020 would incorporate global best practices, indicating optimism of a modern and internationally benchmarked curriculum. However, 33.6% do not agree, suggesting doubts about feasibility on the ground or challenges to local adaptation. Meanwhile, 13.6% are neutral, suggesting uncertainty over how well global standards would be adapted. These results show that there is a need for curriculum restructuring that allows due consideration to both global advancements and local industry expectations, alongside academic realities.

**Table 4.116**

**NEP 2020 would provide more opportunities for internships and industry exposure.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 42 | 16.8 | 16.8 | 16.8 |
| | Disagree | 60 | 24.0 | 24.0 | 40.8 |
| | Neither Agree nor disagree | 22 | 8.8 | 8.8 | 49.6 |
| | Agree | 68 | 27.2 | 27.2 | 76.8 |
| | Strongly Agree | 58 | 23.2 | 23.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.116**



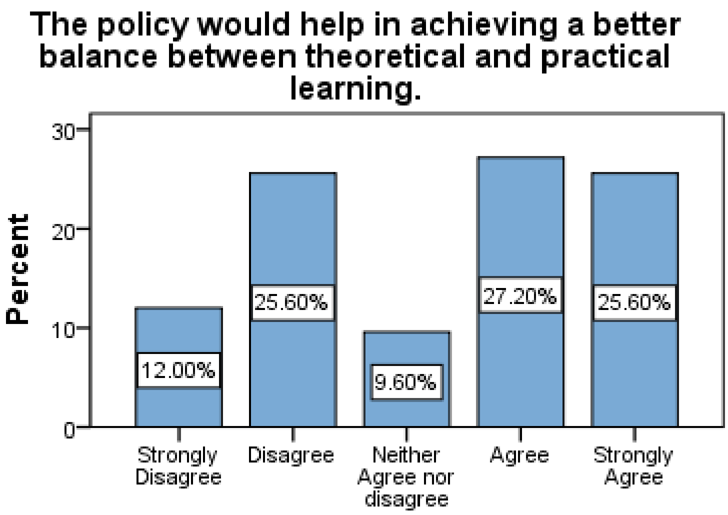
An indication of NEP 2020 bridging the industry-academia gap is the fact that 50.4% respondents agreed that there would be more internship and industry opportunities under NEP 2020. By contrast, 40.8% (of respondents) disagree, indicating concerns about the practicality of the implementation or the establishment of sufficient partnerships across industry. 8.8% of the respondents remain neutral, which means they are not quite sure about how much impact they will have. The above findings raise the issue that industries must come together in a structured manner to provide meaningful internship and exposure opportunities to students.

**Table 4.117**

**The policy would help in achieving a better balance between theoretical and practical learning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 30 | 12.0 | 12.0 | 12.0 |
| | Disagree | 64 | 25.6 | 25.6 | 37.6 |
| | Neither Agree nor disagree | 24 | 9.6 | 9.6 | 47.2 |
| | Agree | 68 | 27.2 | 27.2 | 74.4 |
| | Strongly Agree | 64 | 25.6 | 25.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.117**



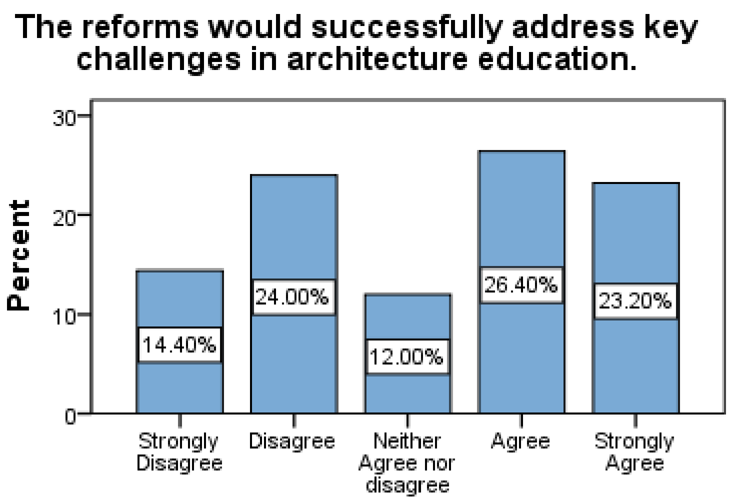
52.8% of respondents agree that NEP-2020 would help achieve a better balance between theoretical and practical learning, which indicates that there is optimism that NEP-2020 may improve experiential learning. But a large percentage (37.6%) disagree, suggesting scepticism about whether it would be implemented or whether it would achieve this end. 9.6% remain neutral, perhaps due to uncertainty about specific policy measures. Well-structured practical learning components paired with industry partnerships are key points that needs to be understood, in terms of integrating theory learnt with the practice needed in the workplaces.

**Table 4.118**

**The reforms would successfully address key challenges in architecture education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 36 | 14.4 | 14.4 | 14.4 |
| | Disagree | 60 | 24.0 | 24.0 | 38.4 |
| | Neither Agree nor disagree | 30 | 12.0 | 12.0 | 50.4 |
| | Agree | 66 | 26.4 | 26.4 | 76.8 |
| | Strongly Agree | 58 | 23.2 | 23.2 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

**Figure 4.118**



The survey revealed that 49.6% of the respondents agreed that NEP 2020 reforms would tackle some of the challenges faced in the field of architecture education, while 38.4% of the respondents disagreed; this could indicate scepticism about the successful implementation of these reforms. 12.0% are neutral, so there may be some uncertainty about what this policy will do. Hence, this divided perception reveals a two-faced character of the recent propositions, proving that successful implementation needs to be closely monitored and conducted by both academic and business professionals in a very cautious manner to be able to confront the underlying problems towards education.

## 4.4 Responses from Industry Representatives:

Responses were collected from 160 industry representatives on the subject "Studies on the Present Architecture Curriculum in India and Its Relevance in Today's Context". The survey engaged 30 industries over 4-5 representatives from each industry.

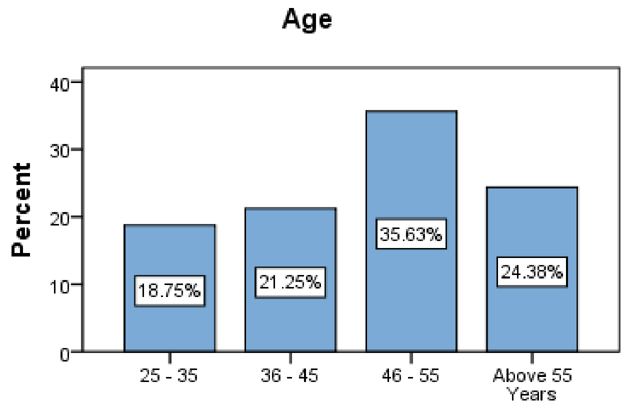
### 4.4.1 Demographic analysis:

**Table 4.119**

**Age**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 25 - 35 | 30 | 18.8 | 18.8 | 18.8 |
| | 36 - 45 | 34 | 21.3 | 21.3 | 40.0 |
| | 46 - 55 | 57 | 35.6 | 35.6 | 75.6 |
| | Above 55 Years | 39 | 24.4 | 24.4 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.119**



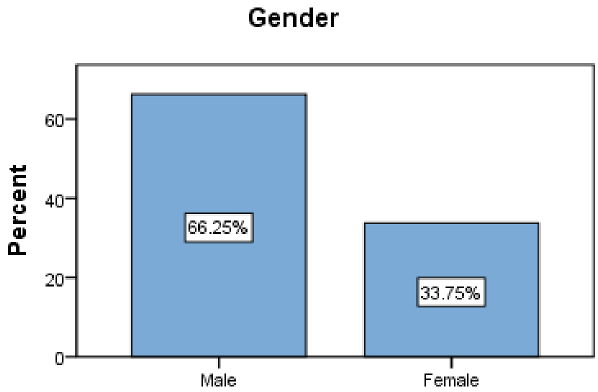
The above table depicts the age distribution of survey of industry representatives, where 35.6% of the respondents lie between 46–55 years of age group, and 24.4% of the respondents were above 55 years of age. Among these, 36–45 years segment make up 21.3% and the youngest, 25–35 years, accounts for 18.8% This means that the vast majority of respondents are mid-to-senior-level professionals, which lends significant supplier-side industry experience to this study.

**Table 4.120**

**Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 106 | 66.3 | 66.3 | 66.3 |
| | Female | 54 | 33.8 | 33.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.120**



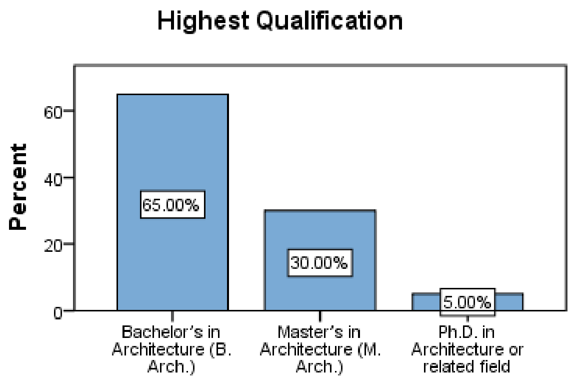

Based on the gender distribution data, out of the total respondents, 66.3% are male, and 33.8% are female. This means that the number of representatives surveyed was male and fits the most representational composition within the industry. This indicates that male respondents are higher in the survey than female respondents.

**Table 4.121**

**Highest Qualification**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Bachelor's in Architecture (B.Arch.) | 104 | 65.0 | 65.0 | 65.0 |
| | Master's in Architecture (M.Arch.) | 48 | 30.0 | 30.0 | 95.0 |
| | Ph.D. in Architecture or related field | 8 | 5.0 | 5.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.121**



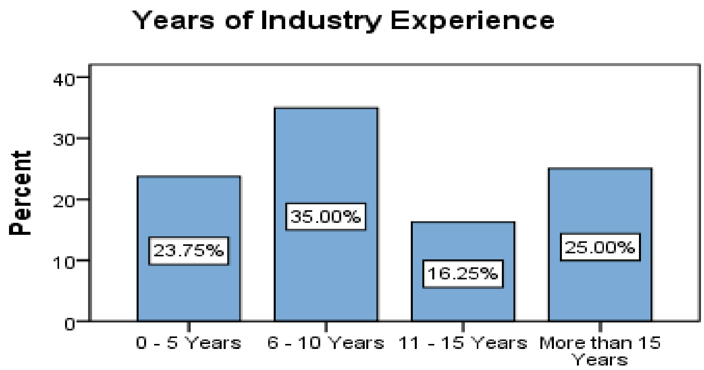

65% of respondents have a Bachelor's in Architecture (B.Arch.), and 30 percent have a Master's in Architecture (M.Arch.). Only 5 percent have a Ph. D. in Architecture or similar field. This suggests that although most industry representatives only hold an undergraduate qualification, many have completed master/doctorate-level courses in the topic area.

**Table 4.122**

**Years of Industry Experience**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0 - 5 Years | 38 | 23.8 | 23.8 | 23.8 |
| | 6 - 10 Years | 56 | 35.0 | 35.0 | 58.8 |
| | 11 - 15 Years | 26 | 16.3 | 16.3 | 75.0 |
| | More than 15 Years | 40 | 25.0 | 25.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.122**



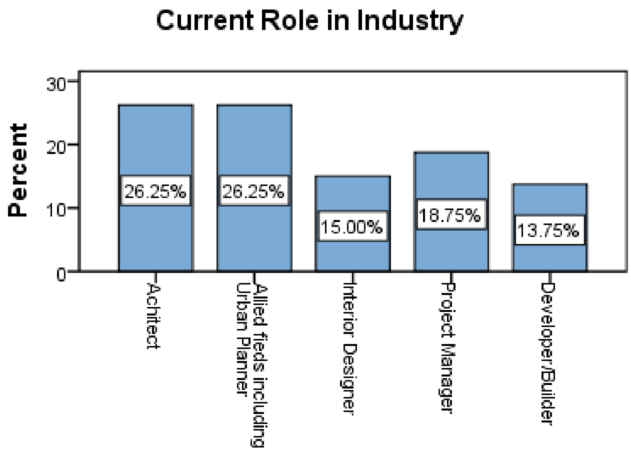

The respondents have a variety of experience in industries. The most significant amount of people (35%) had between 6–10 years of experience, and 25% had over 15 years of experience. Another 23.8% have been active between 0–5 years, next 16.3% in between 11–15 years. This could be considered as a healthy distribution which can give us diverse ideas on the architecture curriculum from early-career, mid-career as well as senior professionals.

**Table 4.123**

**Current Role in Industry**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Achitect | 42 | 26.3 | 26.3 | 26.3 |
| | Allied fieds including Urban Planner | 42 | 26.3 | 26.3 | 52.5 |
| | Interior Designer | 24 | 15.0 | 15.0 | 67.5 |
| | Project Manager | 30 | 18.8 | 18.8 | 86.3 |
| | Developer/Builder | 22 | 13.8 | 13.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.123**



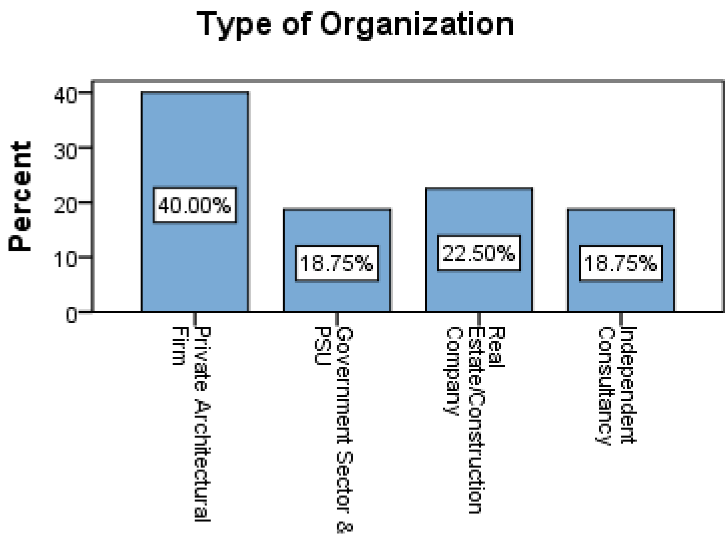

The industry representation among the respondents is diverse. Architects and Allied fields including Urban Planners each account for 26.3% of the total, with Project Managers (18.8%), Interior Designers (15%), and Developers/Builders (13.8%) . Such a distribution provides perspective on the architecture curriculum from different professionals viewpoints.

**Table 4.124**

**Type of Organization**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Private Architectural Firm | 64 | 40.0 | 40.0 | 40.0 |
| | Government Sector & PSU | 30 | 18.8 | 18.8 | 58.8 |
| | Real Estate/Construction Company | 36 | 22.5 | 22.5 | 81.3 |
| | Independent Consultancy | 30 | 18.8 | 18.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.124**



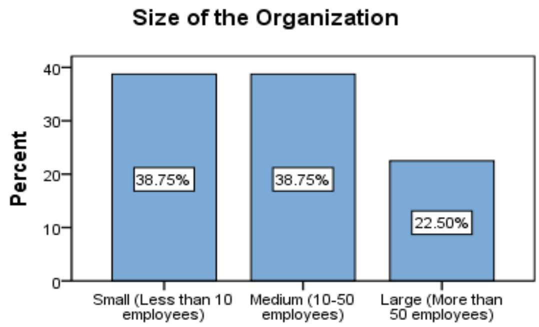

The data was based on the type of organization respondents represent. Response from 160 participants show that most of them belong to the Private Architectural Firms and Real Estate/Construction Companies (40% and 22.5% respectively). 18.8% of respondents are from the Government Sector & PSUs and Independent Consultancies sectors respectively. The repeated addition shows that the respondents now have about 58.8% representation when grouped by Private Architectural Firms, Government Sector & PSUs, and by Real Estate/Construction Companies that brought the percentage to 81.3% The last group, Independent Consultancy, expands the total to 100%, indicating a balanced representation through case in the types of company.

**Table 4.125**

**Size of the Organization**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Small (Less than 10 employees) | 62 | 38.8 | 38.8 | 38.8 |
| | Medium (10-50 employees) | 62 | 38.8 | 38.8 | 77.5 |
| | Large (More than 50 employees) | 36 | 22.5 | 22.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.125**



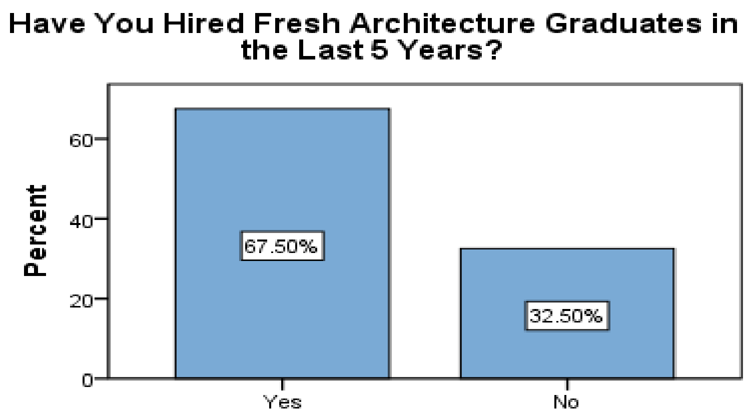

The respondents are from different size organizations. 38.8% work at small firm (<10); the same number of people (38.8%) work in medium-sized firm (10–50) The other 22.5% belongs to big organizations with more than 50 employees. Such balanced representation provides insights from firms of varying scales, highlighting various operational nuances in the industry.

**Table 4.126**

Have You Hired Fresh Architecture Graduates in the Last 5 Years?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 108 | 67.5 | 67.5 | 67.5 |
| | No | 52 | 32.5 | 32.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.126**



63% of industry professionals have recruited new architecture graduates within the past five years, reveals the survey when asked about their recent hiring experience. Nevertheless, a large number of firms have avoided hiring recent graduates, which may reflect Industry requirements or other economic circumstances, suggesting a healthy desire for emerging professionals across the sector.

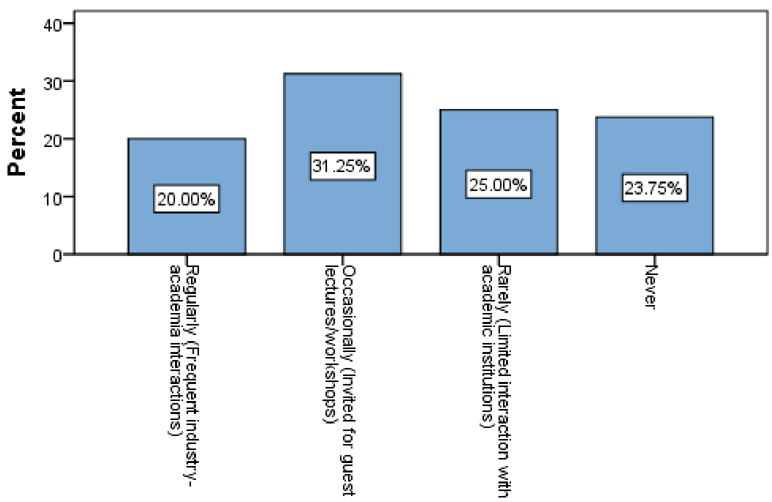
**Table 4.127**

**How Frequently Do You Collaborate with Academic Institutions?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Regularly (Frequent industry-academia interactions) | 32 | 20.0 | 20.0 | 20.0 |
| | Occasionally (Invited for guest lectures/workshops) | 50 | 31.3 | 31.3 | 51.3 |
| | Rarely (Limited interaction with academic institutions) | 40 | 25.0 | 25.0 | 76.3 |
| | Never | 38 | 23.8 | 23.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.127**

**How Frequently Do You Collaborate with Academic Institutions?**



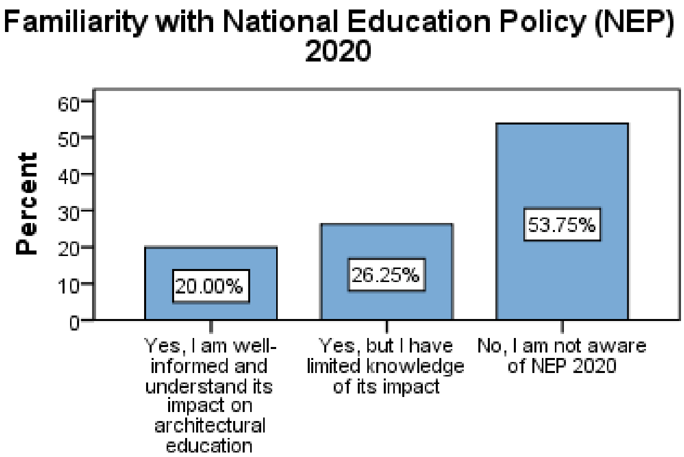

The survey shows unevenness in industry-academia partnership. 31.3% of respondents stated occasional interactions, typically in the form of guest lectures or workshops, whereas 20% noted regular collaboration with frequent interactions. But 25% claim never or hardly engage in collaborative work with academic institutions, and 23.8% declare they have never collaborated. That implies that though a handful actively publishes in line with academia, a much larger percentage is either not or very slightly connected to Educational establishments.

**Table 4.128**

**Familiarity with National Education Policy (NEP) 2020**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes, I am well-informed and understand its impact on architectural education | 32 | 20.0 | 20.0 | 20.0 |
| | Yes, but I have limited knowledge of its impact | 42 | 26.3 | 26.3 | 46.3 |
| | No, I am not aware of NEP 2020 | 86 | 53.8 | 53.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.128**




The awareness of the NEP 2020 among the industry representatives has been reported to be very low the survey shows. Notably, while 20% of respondents have good knowledge about the impact of NEP 2020 on architectural education, 26.3% do not have clear knowledge about it and majority of the respondents (53.8%)are not aware of NEP 2020. It is time that we engage more meaningfully with the idea of reforming education and be aware of how we can engage with all levels of education in light of these reforms.

### 4.4.2 Alignment of Curriculum with Industry Needs:

Following responses have been obtained from industry professionals to understand their opinion towards alignment of present architecture curriculum with industry needs.

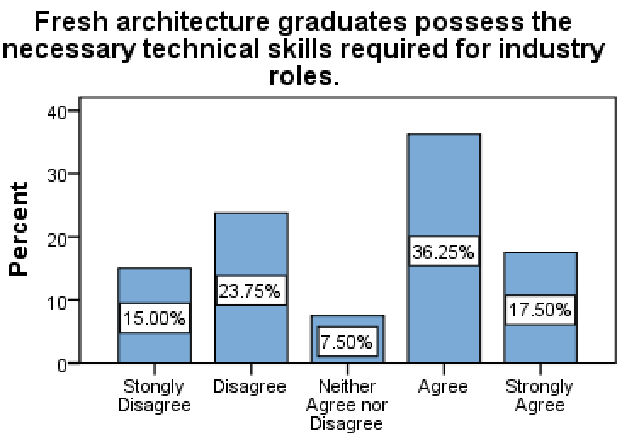
**Table 4.129**

**Fresh architecture graduates possess the necessary technical skills required for industry roles.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 38 | 23.8 | 23.8 | 38.8 |
| | Neither Agree nor Disagree | 12 | 7.5 | 7.5 | 46.3 |
| | Agree | 58 | 36.3 | 36.3 | 82.5 |
| | Strongly Agree | 28 | 17.5 | 17.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

‘

**Figure 4.129**



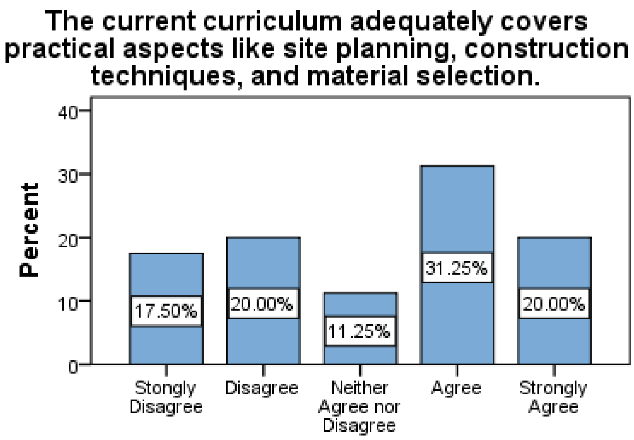

The findings are mixed in terms of fresh architecture graduates, with regards to technical skills. Although they agree/strongly agree that graduates have the required skills (53.8%), the rest (38.8%) disagree/strongly disagree, so there could be room for improvement in the skill level of graduates. The remaining 7.5% is neutral on the issue. The past decade saw an alarming overview of the mismatch between education and industry that has necessitated a curriculum overhaul in architectural education.

**Table 4.130**

**The current curriculum adequately covers practical aspects like site planning, construction techniques, and material selection.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 32 | 20.0 | 20.0 | 37.5 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 48.8 |
| | Agree | 50 | 31.3 | 31.3 | 80.0 |
| | Strongly Agree | 32 | 20.0 | 20.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.130**



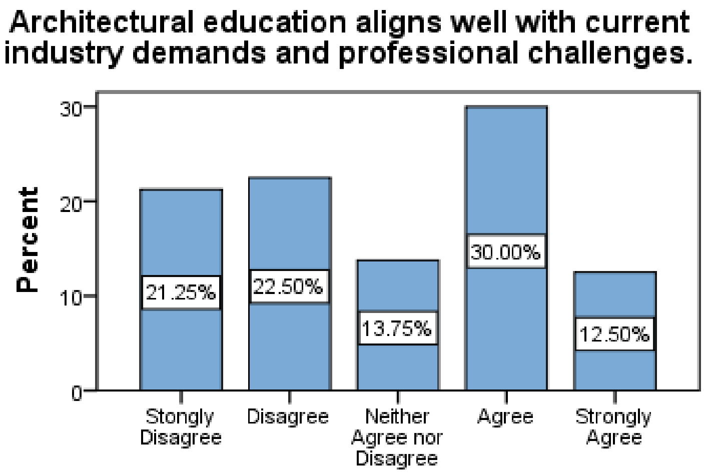

The survey results indicate that opinions were divided about whether the current architecture curriculum adequately covers practical aspects of site planning, construction techniques, and material selection. Although 51.3 percent of respondents agree or strongly agree, this is met with 37.5 percent who disagree or strongly disagree; students are clearly concerned that the practical relevance of the curriculum is lacking. Another 11.3% are neutral, which we see as an opportunity to better align what we teach with what a profession wants.

**Table 4.131**

**Architectural education aligns well with current industry demands and professional challenges.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 34 | 21.3 | 21.3 | 21.3 |
| | Disagree | 36 | 22.5 | 22.5 | 43.8 |
| | Neither Agree nor Disagree | 22 | 13.8 | 13.8 | 57.5 |
| | Agree | 48 | 30.0 | 30.0 | 87.5 |
| | Strongly Agree | 20 | 12.5 | 12.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.131**



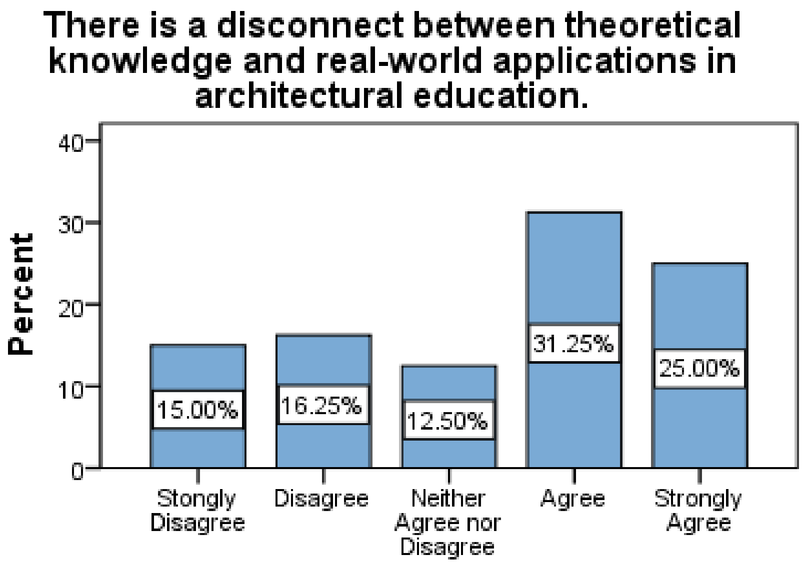

The survey results indicate divided opinions on whether architectural education address the challenges and also the demands of professional practice. Despite 42.5% of respondents agreeing or strongly agreeing that the curriculum meets industry needs: there is a split here with a significant 43.8% either disagreeing or strongly disagreeing with this statement, pointing out gaps between training and expectations. Furthermore, 13.8% are neutral, indicating the necessity of improvement in curriculum to prepare graduates adequately for industry challenges.

**Table 4.132**

**There is a disconnect between theoretical knowledge and real-world applications in architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 26 | 16.3 | 16.3 | 31.3 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 43.8 |
| | Agree | 50 | 31.3 | 31.3 | 75.0 |
| | Strongly Agree | 40 | 25.0 | 25.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.132**



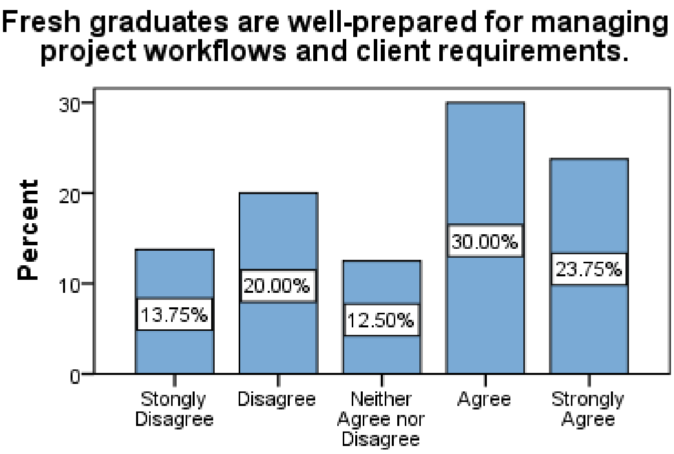

The survey reflect on the indicator of gap between what graduate students know theoretically and practically when it comes to their own field of architecture. Despite 56.2% of respondents agreeing or strongly agreeing that a disconnect exists, 31.3% disagreed or strongly disagreed, signalling some level of confidence in the curriculum's relevance outside of academia. 12.5% stand in the middle ground which indicates a missed opportunity to create a more holistic approach to entwining practical elements into the academic experience.

**Table 4.133**

**Fresh graduates are well-prepared for managing project workflows and client requirements.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 22 | 13.8 | 13.8 | 13.8 |
| | Disagree | 32 | 20.0 | 20.0 | 33.8 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 46.3 |
| | Agree | 48 | 30.0 | 30.0 | 76.3 |
| | Strongly Agree | 38 | 23.8 | 23.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.133**



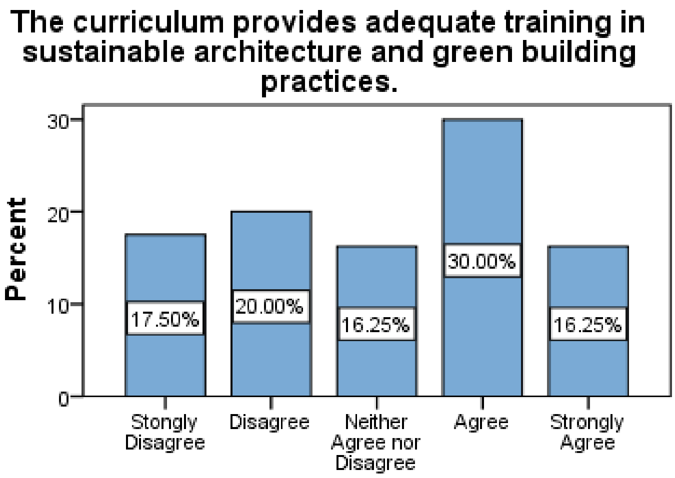

Experiences on the job indicate mixed perceptions within the industry when it comes to the ability of fresh graduates to manage the project workflow as well as stakeholder requirements. Only 53.8% of respondents agree or completely agree that students are well-prepared for industry, with 33.8% noting disagreement or strong disagreement, indicating there is a belief among many professionals that gaps exist in preparedness. Moreover, 12.5% are neutral, which means that although there are some graduates with the required skills, there is still more room for improvement, specifically in the curriculum that could potentially improve their practical skills.

**Table 4.134**

**The curriculum provides adequate training in sustainable architecture and green building practices.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 32 | 20.0 | 20.0 | 37.5 |
| | Neither Agree nor Disagree | 26 | 16.3 | 16.3 | 53.8 |
| | Agree | 48 | 30.0 | 30.0 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.134**



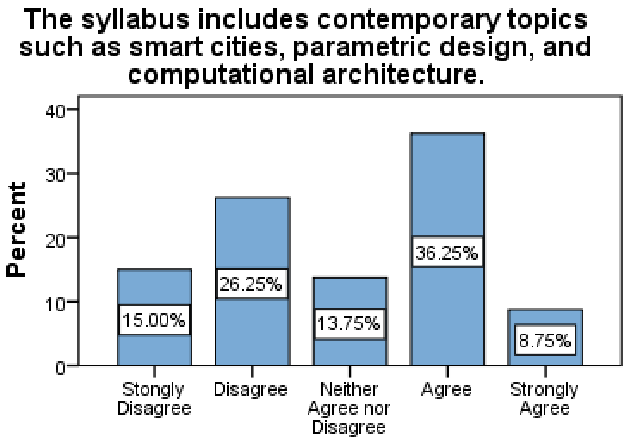

This is in stark contrast with the respondents surveyed specifically around the topic of sustainability in the architectural curriculum. Although 46.3% of respondents agree or strongly agree that the curriculum leads to sufficient training on sustainability, a considerable 37.5% disagree or strongly disagree, highlighting concerns about gaps in education on sustainability in the existing curriculum. Although some topics do seem to be highlighted, the relatively high proportion i.e. 16.25% of neutral responses indicates that there is significant room for improvement in incorporating sustainable design principles into architectural curricula.

**Table 4.135**

**The syllabus includes contemporary topics such as smart cities, parametric design, and computational architecture.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 42 | 26.3 | 26.3 | 41.3 |
| | Neither Agree nor Disagree | 22 | 13.8 | 13.8 | 55.0 |
| | Agree | 58 | 36.3 | 36.3 | 91.3 |
| | Strongly Agree | 14 | 8.8 | 8.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.135**



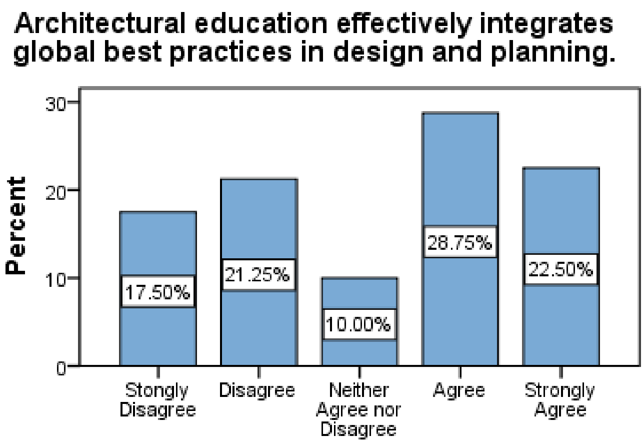

The survey results suggest a rather ambiguous perception on the presence of new paradigms such as smart cities, parametric design or computational architecture within the syllabus. However, a significant 41.3% disagree or strongly disagree, indicating a potential lack of subject matter coverage in the curriculum. Moreover, neutrality suggests uncertainty/inconsistency in the incorporation of such subjects into architectural pedagogy, as reflected by 13.8% of responses. This indicates a demand for curriculum revisions so that students are up to date on 21st-century industry developments.

**Table 4.136**

**Architectural education effectively integrates global best practices in design and planning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 34 | 21.3 | 21.3 | 38.8 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 48.8 |
| | Agree | 46 | 28.8 | 28.8 | 77.5 |
| | Strongly Agree | 36 | 22.5 | 22.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.136**



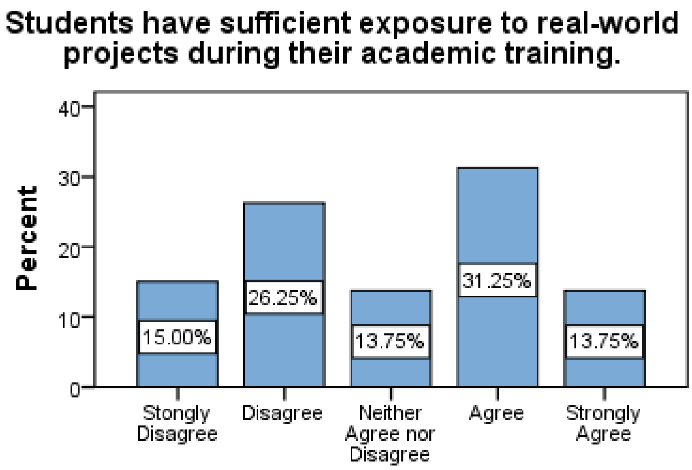

The survey results indicate that participants held polarized views regarding the extent to which global best practices have been integrated into architectural education. Although 51.3% of respondents believe that global standards in design and planning are incorporated at a scale and quality that meet client expectations, a significant 38.8% disagree or strongly disagree, suggesting there are opportunities for improvement. Furthermore, there are 10.0% of respondents who do not express a clear opinion, which suggests a certain degree of inconsistency regarding the introduction of international best practices in different institutions. It indicates that curriculum development may be needed to bridge architectural education with global industry practices.

**Table 4.137**

**Students have sufficient exposure to real-world projects during their academic training.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 42 | 26.3 | 26.3 | 41.3 |
| | Neither Agree nor Disagree | 22 | 13.8 | 13.8 | 55.0 |
| | Agree | 50 | 31.3 | 31.3 | 86.3 |
| | Strongly Agree | 22 | 13.8 | 13.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.137**



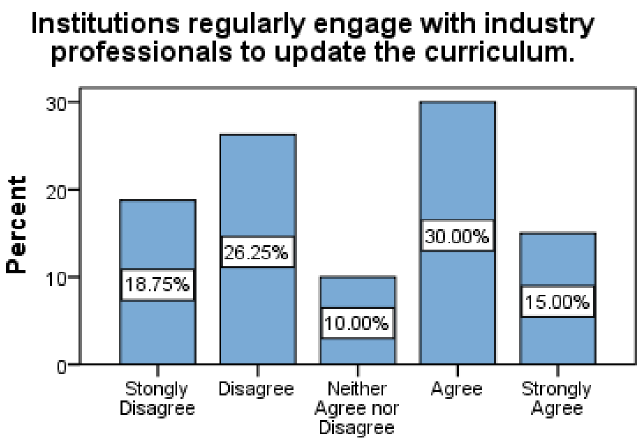

The survey responses show ambivalence toward students' exposure to real-world projects in their training. 45.1% of the respondents (Agree + Strongly Agree) strongly believe that sufficient practical exposure is provided to the students however, the rest 41.3% (Disagree + Strongly Disagree) seems to disagree with this point indicating that the scope of knowledge the students gain during the course may not be always aligned with the practical knowledge in industry. The remaining 13.8% were neutral suggesting experiences of these elements between the two institutions varied widely. It indicates a need for stronger industry-academia collaboration to have more internships, live projects and site visits so that the gap between theory and practical exposure can be filled.

**Table 4.138**

**Institutions regularly engage with industry professionals to update the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 42 | 26.3 | 26.3 | 45.0 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 55.0 |
| | Agree | 48 | 30.0 | 30.0 | 85.0 |
| | Strongly Agree | 24 | 15.0 | 15.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.138**




The data  show a mix of attitudes on how active in reaching out to the industry for contemporary curriculum directional guidance the institutions actually are. Although 45% (Agree + Strongly Agree) see institutions actively taking input from industry, a significant 45.1% (Disagree + Strongly Disagree) considers that engagement to be inadequate. And 10% are  neutral, suggesting variance in institutional practices. What we do know, however, is that there could be more organized collaboration between academic and industry, through advisory boards, regular course curricular reviews, guest lectures, and workplace-led workshops. Enhancing these initiatives would help ensure architecture education will keep up with looming industry demand and technological advances.

### 4.4.3 Impact of Curriculum Rigidity on Adaptability to Trends

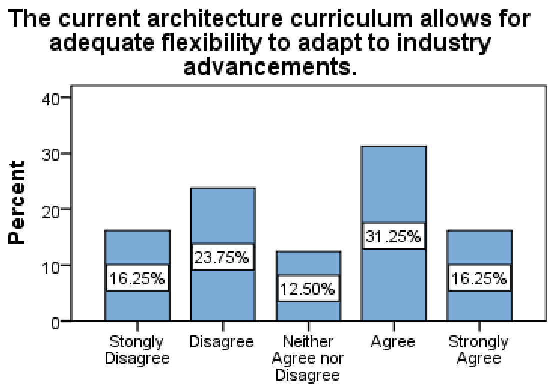
Following responses have been received from industry representatives towards the impact of rigidity in architecture curriculum on adaptability to current trends in the industry.

**Table 4.139**

**The current architecture curriculum allows for adequate flexibility to adapt to industry advancements.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 26 | 16.3 | 16.3 | 16.3 |
| | Disagree | 38 | 23.8 | 23.8 | 40.0 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 52.5 |
| | Agree | 50 | 31.3 | 31.3 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.139**



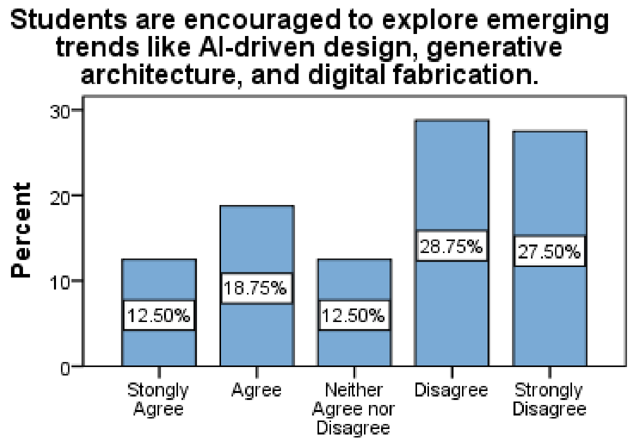

A lack of optimism seems evident in the survey responses, as opinions were mixed when it came to whether the existing architecture curriculum is flexible enough to adapt to new innovations in the industry. More specifically, a fair 47.6% (Agree + Strongly Agree) think that the curriculum opens up the possibility of adaptation, while a large 40.1% (Disagree + Strongly Disagree) believe it does not include enough flexibility. As an additional note, 12.5% are neutral, reflecting uncertainty or variability between institutions. Of course, some institutions and individual programs are dynamic and responsive to industry trends; however, many still have rigid curricula that do not take emerging trends in parametric design, AI integration, and sustainability practices into account. Enhancing Adaptability and Updating in Architectural Education: Strengthening curriculum revision mechanisms, offering elective courses, and industry partnership.

**Table 4.140**

**Students are encouraged to explore emerging trends like AI-driven design, generative architecture, and digital fabrication.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 20 | 12.5 | 12.5 | 12.5 |
| | Agree | 30 | 18.8 | 18.8 | 31.3 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 43.8 |
| | Disagree | 46 | 28.8 | 28.8 | 72.5 |
| | Strongly Disagree | 44 | 27.5 | 27.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.140**



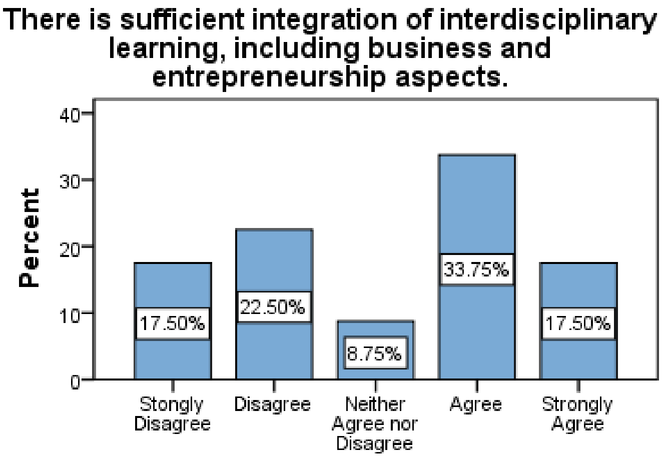

Some students reported receiving encouragement toward modern approaches such as AI-aided design, digital fabrication, and generative architecture, while a substantial number of students disagreed. Notably, only 31.3% of respondents either strongly agree or agree with said statement, while 56.3% either disagree or strongly disagree that such trends are overstated enough in both academic and media discourse respectively. 12.5% of students are neutral on this question. The results reveal a disconnect between the promotion or implementation of emerging technological trends within academia.

**Table 4.141**

**There is sufficient integration of interdisciplinary learning, including business and entrepreneurship aspects.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 36 | 22.5 | 22.5 | 40.0 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 48.8 |
| | Agree | 54 | 33.8 | 33.8 | 82.5 |
| | Strongly Agree | 28 | 17.5 | 17.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.141**



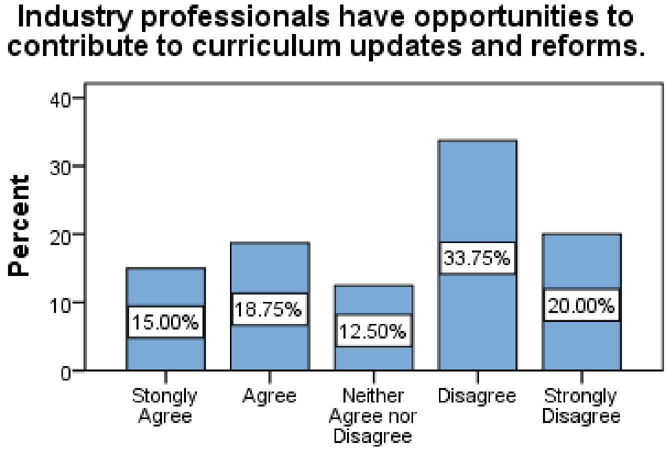

These results indicate that there exists a contradictory perception regarding the interlacing of this architectural education with interdisciplinary learning, certainly in both business and entrepreneurship. 51.3% reported agreement that there is adequate integration here (Agree + Strongly Agree), while 40% (Disagree + Strongly Disagree) said that this is lacking, indicating gaps around practical exposure to business management, project finance and entrepreneurship. An 8.8% neutral response implies ambiguity, inconsistencies or confusion relative to different units/organizations. These results highlight the importance of improving coursework, workshops and partnerships with industry to build strong business skills and entrepreneurial mind sets for graduates, so they are adequately prepared to take on leadership positions within the industry.

**Table 4.142**

**Industry professionals have opportunities to contribute to curriculum updates and reforms.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 24 | 15.0 | 15.0 | 15.0 |
| | Agree | 30 | 18.8 | 18.8 | 33.8 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 46.3 |
| | Disagree | 54 | 33.8 | 33.8 | 80.0 |
| | Strongly Disagree | 32 | 20.0 | 20.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.142**



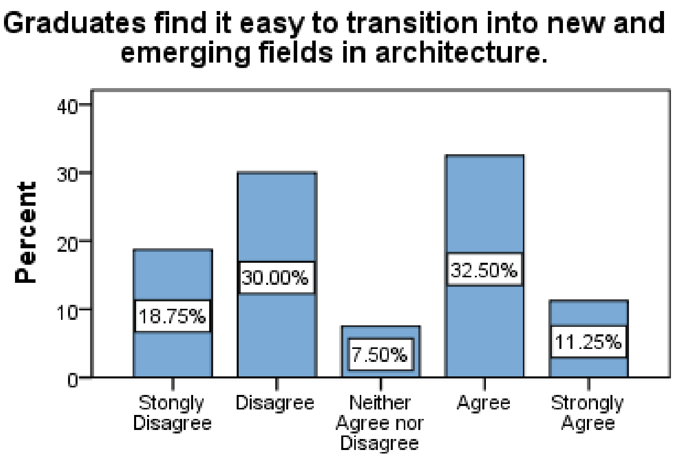

Some industry professionals may be able to influence curriculum updates and reforms, but many respondents disagree, as the survey results highlight. And, only 33.8% of participants agree or strongly agree with the statement, compared to a greater share—53.8%—of the population that either disagrees or strongly disagrees contributing to the suggestion that industry involvement in curriculum development may be insufficient. 12.5% of respondents are neutral. These discoveries emphasize a potential lack of alignment between the academic world and the Industry sector, necessitating enhanced interaction between the two to make sure that what students are learning is applicable to today's industry needs.

**Table 4.143**

**Graduates find it easy to transition into new and emerging fields in architecture.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 48 | 30.0 | 30.0 | 48.8 |
| | Neither Agree nor Disagree | 12 | 7.5 | 7.5 | 56.3 |
| | Agree | 52 | 32.5 | 32.5 | 88.8 |
| | Strongly Agree | 18 | 11.3 | 11.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.143**



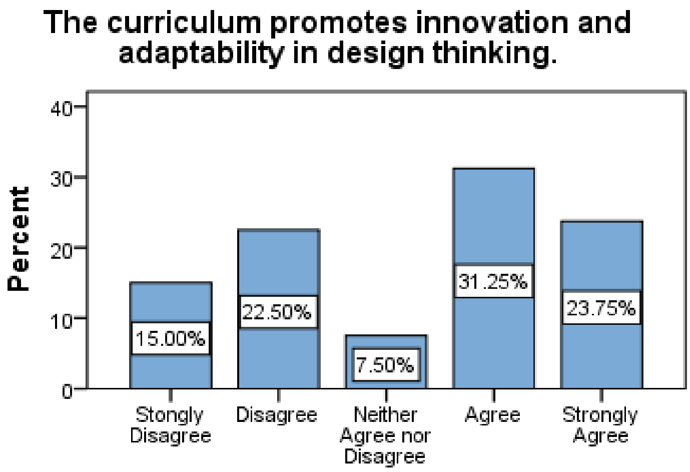

Survey results show mixed feelings on the ease with which graduates enter new and emerging realms in architecture. On the other hand, 43.8% of respondents (Agree + Strongly Agree) agree to the fact that the graduates are adaptable to increase industry trends, which is impressive, as 48.8% (Disagree + Strongly Disagree) claim that is not the case suggesting that there might be some areas that require improvement in syllabus or skill range. Slightly lower, 7.5% are neutral, indicating uncertainty or diverse experiences. Incorporating these findings into curriculum design and offerings at educational institutions can lead to greater flexibility in programs, allowing for graduates that are better prepared for career opportunities that are not only dynamic but also non-linear.

**Table 4.144**

**The curriculum promotes innovation and adaptability in design thinking.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 36 | 22.5 | 22.5 | 37.5 |
| | Neither Agree nor Disagree | 12 | 7.5 | 7.5 | 45.0 |
| | Agree | 50 | 31.3 | 31.3 | 76.3 |
| | Strongly Agree | 38 | 23.8 | 23.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.144**



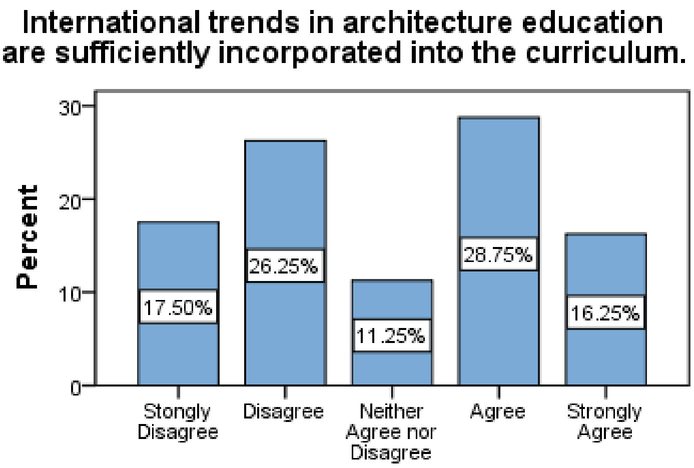

As the results show, there is a split opinion on whether the curriculum fosters innovation and adaptability within design thinking. 55.1% of the 160 respondents (Agree + Strongly Agree) agree that the curriculum supports creativity and flexibility, while 37.5% (Disagree + Strongly Disagree) disagree with that statement. Plus, 7.5%  are neutral, themes for which different students might experience. Such  insights call for augmenting curriculum with forward-thinking design methodologies, creative problem-solving, and exposure to evolving industry trends that are required to better equip students for the demands of modern architecture.

**Table 4.145**

**International trends in architecture education are sufficiently incorporated into the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 42 | 26.3 | 26.3 | 43.8 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 55.0 |
| | Agree | 46 | 28.8 | 28.8 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.145**



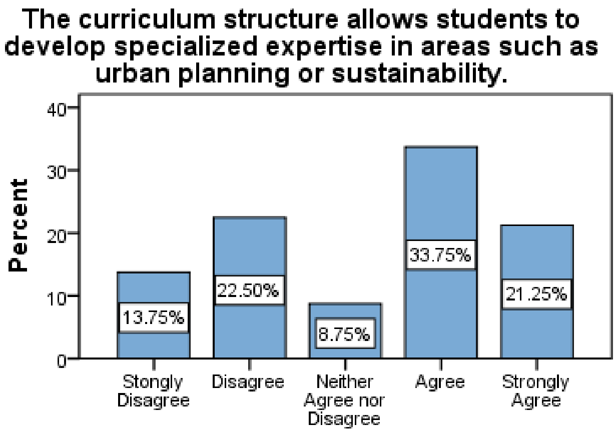

The survey results highlight a variety of perceptions about the role of international movements in architecture education. Though 45.1% of respondents (Agree + Strongly Agree) are of the view that the global architectural advancements do find a place in the curriculum, a significant percentage of 43.8% (Disagree + Strongly Disagree) think the opposite, suggesting a gap in the exposure to contemporary architectural practices worldwide. The fact that 11.3% remain neutral implies differed experiences among the students as well. These findings highlight that there is further need for a greater emphasis on global best practices and emerging architectural.

**Table 4.146**

**The curriculum structure allows students to develop specialized expertise in areas such as urban planning or sustainability.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 22 | 13.8 | 13.8 | 13.8 |
| | Disagree | 36 | 22.5 | 22.5 | 36.3 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 45.0 |
| | Agree | 54 | 33.8 | 33.8 | 78.8 |
| | Strongly Agree | 34 | 21.3 | 21.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.146**



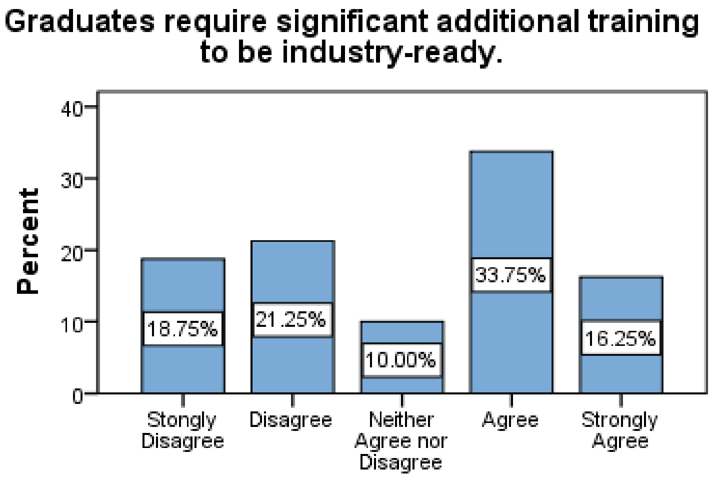

The curriculum was said to help develop students' specialised expertise in areas, such as urban planning and sustainability, but this also laboured mixed feedback. Though a majority of respondents (55.1%) agree or strongly agree that the curriculum allows specialization, nearly 1 in 3 (36.3% of respondents) said it does not allow for deep enough expertise. Also, 8.8% are neutral, suggesting that there might be some uncertainty about specialization exposure, or variability in exposure across institutions/programs. This indicates also while efforts are being made to teach specialized learning, there is scope for improvement to ensure more clear pathways for students to build expertise in niche areas.

**Table 4.147**

**Graduates require significant additional training to be industry-ready.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 34 | 21.3 | 21.3 | 40.0 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 50.0 |
| | Agree | 54 | 33.8 | 33.8 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.147**



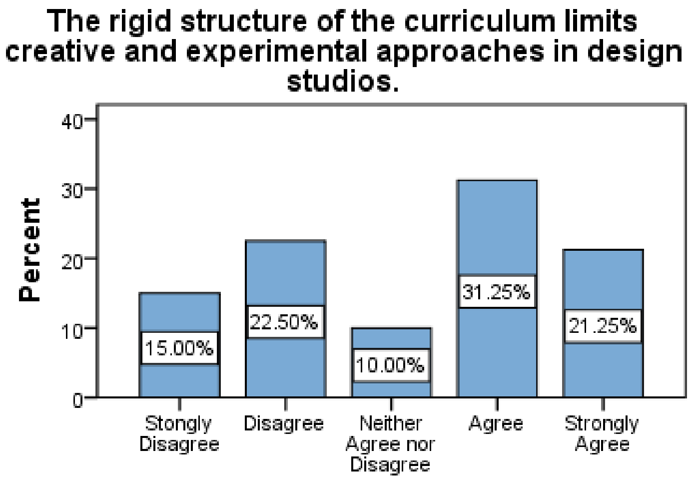

While this may seem unremarkable, the third highest proportion of respondents, at 50.1%, agree or strongly agree that graduates require significant additional training to be industry-ready. At the same time, 40.1% of respondents disagree or strongly disagree — indicating a sizable segment believes the existing curriculum suffices in preparing students for the profession. 10% remain neutral, implying that perceptions are mixed overall and so far. This also underscores the importance of aligning academic curricula closer to industry standards to better acclimate graduates into practice.

**Table 4.148**

**The rigid structure of the curriculum limits creative and experimental approaches in design studios.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 36 | 22.5 | 22.5 | 37.5 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 47.5 |
| | Agree | 50 | 31.3 | 31.3 | 78.8 |
| | Strongly Agree | 34 | 21.3 | 21.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.148**




52.6% of respondents either agree or strongly agree that the curriculum is so rigid there is little room for creative or experimental approaches in design studios. On the flip side, 37.5% disagree or strongly disagree and hence do not view rigidity as a significant barrier. A smaller share (10%) is neutral. These findings imply that though some slight freedom and flexibility in design exists, there needs to be a call for curriculum reform to address more open-ended, creative, and unforeseen design practices.

### 4.4.4 Effectiveness of Practical Training and Skill Development

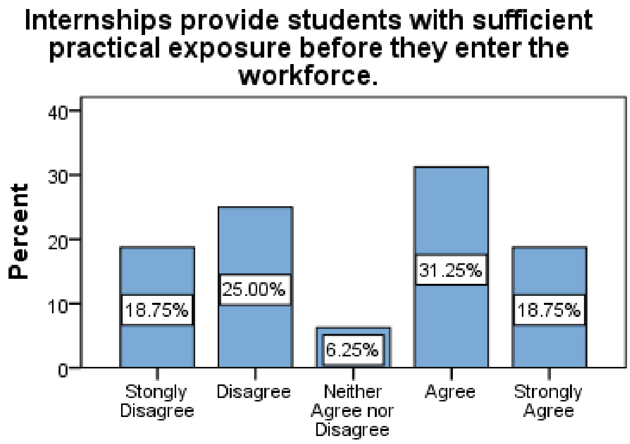
Following are the responses of industrial representatives towards effectiveness of practical training and skill development in architecture education.

**Table 4.149**

**Internships provide students with sufficient practical exposure before they enter the workforce.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 40 | 25.0 | 25.0 | 43.8 |
| | Neither Agree nor Disagree | 10 | 6.3 | 6.3 | 50.0 |
| | Agree | 50 | 31.3 | 31.3 | 81.3 |
| | Strongly Agree | 30 | 18.8 | 18.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.149**



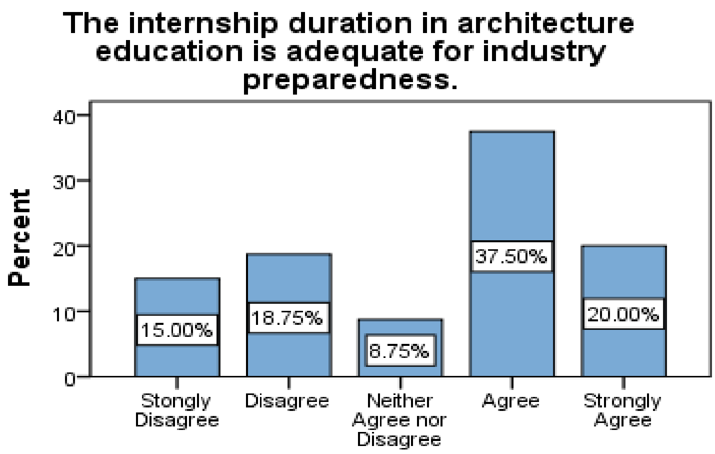

Internships (or lack thereof) are a somewhat divisive subject regarding whether they really prepare students for their future jobs enough. For example, whilst 50.1% of respondents agree or strongly agree that internships provide hands-on experience, 43.8% disagree or strongly disagree, which may indicate lack of hands-on training. A small fraction (6.3%) remain neutral. These results suggest that internships have been largely positive for students, but also point to a need for more holistic experiences that satisfy industry needs.

**Table 4.150**

**The internship duration in architecture education is adequate for industry preparedness.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 30 | 18.8 | 18.8 | 33.8 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 42.5 |
| | Agree | 60 | 37.5 | 37.5 | 80.0 |
| | Strongly Agree | 32 | 20.0 | 20.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.150**



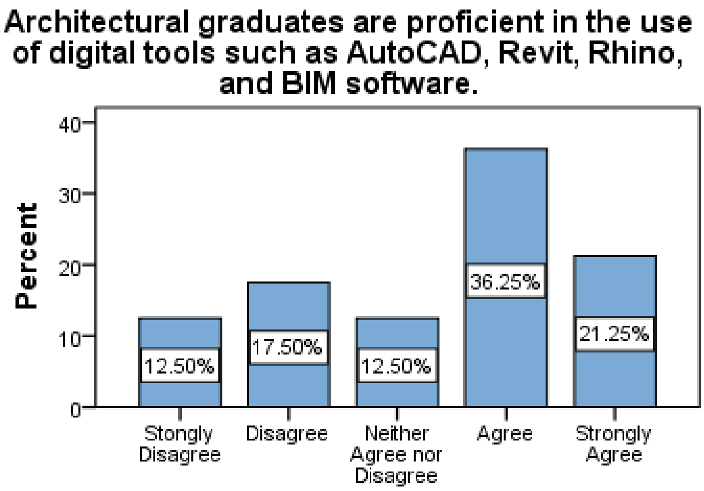

For many in architecture education, the length of internship as a component of education is considered simply not enough for the industry ready graduate. More than half (57.5%) of participants agree or strongly agree that the amount of time is sufficient, while 33.8% feel that it is inadequate. A smaller share (8.8%) is neutral. The findings suggest that while the industry readiness gained from the internship period is recognised by a majority of students, a sizeable number feel that an increased or extended internship would be more effective in preparing graduates for challenges in industry.

**Table 4.151**

**Architectural graduates are proficient in the use of digital tools such as AutoCAD, Revit, Rhino, and BIM software.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 20 | 12.5 | 12.5 | 12.5 |
| | Disagree | 28 | 17.5 | 17.5 | 30.0 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 42.5 |
| | Agree | 58 | 36.3 | 36.3 | 78.8 |
| | Strongly Agree | 34 | 21.3 | 21.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.151**



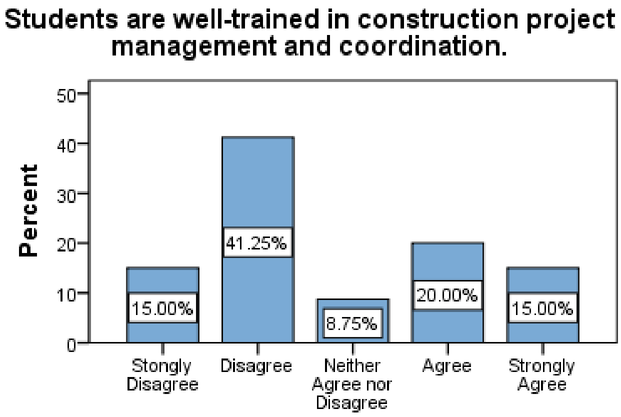

Among the respondents they rate how proficient architectural graduates are with digital tools like AutoCAD, Revit, Rhino and BIM software. A larger majority (57.6%) agreed / strongly agreed that graduates are familiar with these tools, a significant minority of 30% disagreed, pointing to gaps in terms of graduates developing the requisite digital skills. Of concern, however, is that 12.5% are neutral, indicating that while many graduates do exhibit a high level of digital competencies, there is still work to be done in making sure that they are all software literate.

**Table 4.152**

**Students are well-trained in construction project management and coordination.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 66 | 41.3 | 41.3 | 56.3 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 65.0 |
| | Agree | 32 | 20.0 | 20.0 | 85.0 |
| | Strongly Agree | 24 | 15.0 | 15.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.152**



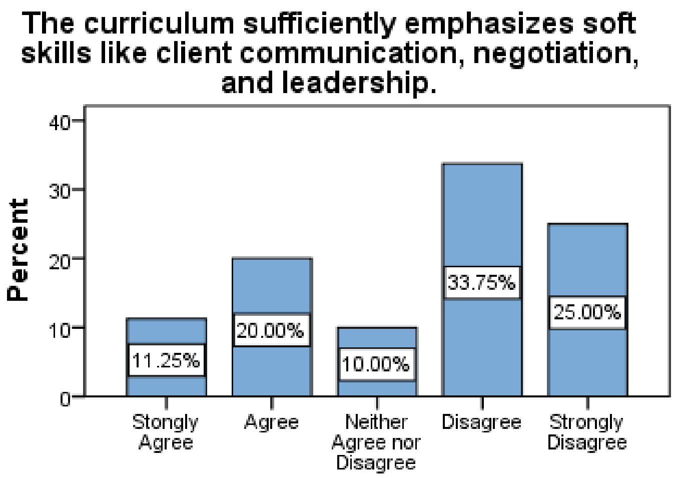

These results reflect mixed perceptions regarding the extent to which students are adequately trained in construction project management and coordination. Whereas 35% of respondents agree or strongly agree that students are well-trained, a significant 56.3% of respondents either disagree or strongly disagree, highlighting that many believe this is an area that could have a lot of room for improvement. Moreover, 8.8% are neutral. These findings point to a possible deficiency in the training workout, suggesting greater emphasis in a syllabus or it is practical direct exposure is called for if trainees' are to be better prepared for building the construction task monitoring functions.

**Table 4.153**

**The curriculum sufficiently emphasizes soft skills like client communication, negotiation, and leadership.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 18 | 11.3 | 11.3 | 11.3 |
| | Agree | 32 | 20.0 | 20.0 | 31.3 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 41.3 |
| | Disagree | 54 | 33.8 | 33.8 | 75.0 |
| | Strongly Disagree | 40 | 25.0 | 25.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.153**



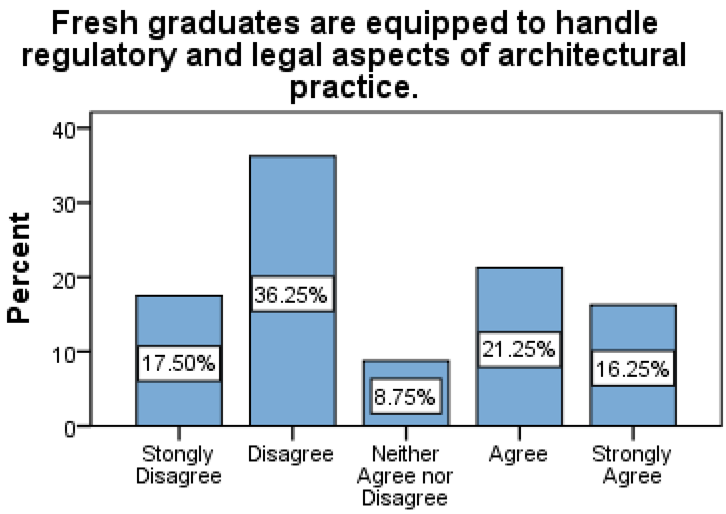

Soft skills (client communication, negotiation, leadership) are not helped enough by the curriculum according to the survey results. Although 31.3% of respondents agree or strongly agree that those skills are covered well, most of them (58.8%) disagree or strongly disagree, meaning they believe this area is lagging. Another 10 percent of respondents are undecided. The results emphasize a need to change the education curriculum to better align with the students' needs for soft skills which are key to success in their careers.

**Table 4.154**

**Fresh graduates are equipped to handle regulatory and legal aspects of architectural practice.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 58 | 36.3 | 36.3 | 53.8 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 62.5 |
| | Agree | 34 | 21.3 | 21.3 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.154**



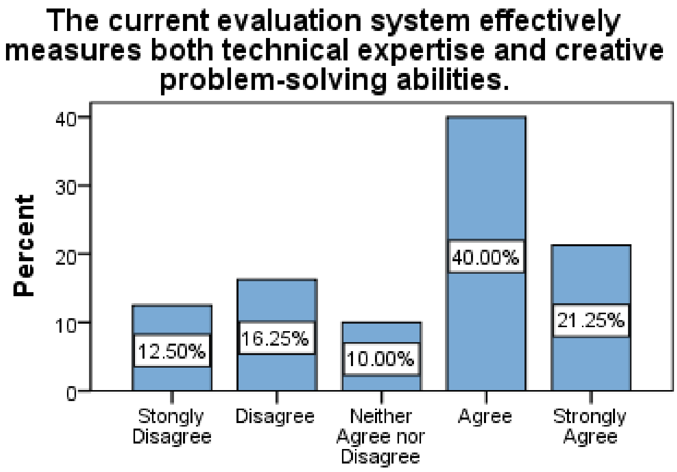

Responses suggest that fresh graduates are doing well, but not necessarily prepared for the compliance and legal issues of architectural practice. Despite 37.5% of respondents indicating agreement or strong agreement that graduates are prepared, a larger portion -- 53.75% -- disagrees or strongly disagrees (indicating that they feel there is a gap). 8.75% also remain neutral. These results indicate a potential gap in curriculum in which regulation, and legal training may need to be integrated further, in our efforts to prepare graduates for professional practice.

**Table 4.155**

**The current evaluation system effectively measures both technical expertise and creative problem-solving abilities.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 20 | 12.5 | 12.5 | 12.5 |
| | Disagree | 26 | 16.3 | 16.3 | 28.8 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 38.8 |
| | Agree | 64 | 40.0 | 40.0 | 78.8 |
| | Strongly Agree | 34 | 21.3 | 21.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.155**



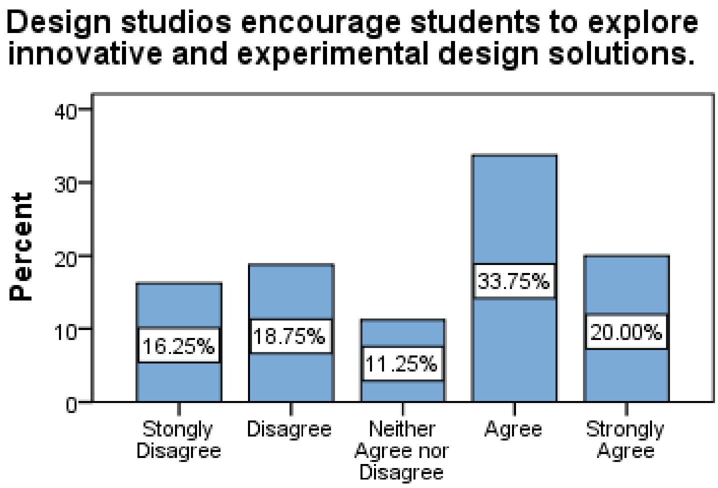

Overall, respondents generally aligned with the statement that the current evaluation system is positive regarding the ability to assess both technical expertise and creative problem-solving skills, with 61.3% of respondents either agreeing or strongly agreeing. However, 28.8% of respondents disagreed, suggesting strong scepticism about the system's ability to adequately measure these critical skills. At the same time, 10% don't have a position, indicating that their experiences may vary. These findings suggest that a more nuanced evaluation process may better capture the full range of skills that candidates bring to the table, including both technical expertise and innovative thinking.

**Table 4.156**

**Design studios encourage students to explore innovative and experimental design solutions.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 26 | 16.3 | 16.3 | 16.3 |
| | Disagree | 30 | 18.8 | 18.8 | 35.0 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 46.3 |
| | Agree | 54 | 33.8 | 33.8 | 80.0 |
| | Strongly Agree | 32 | 20.0 | 20.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.156**



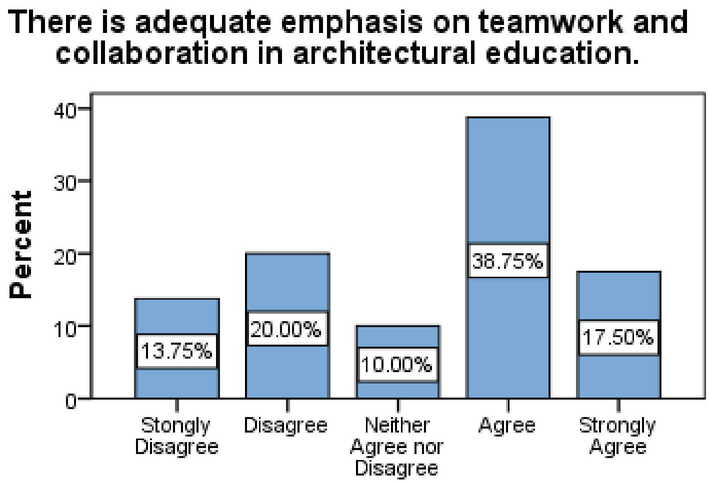

53.8% of respondents agreed or strongly agreed that design studios promote innovative and experimental design solutions. But 35.1% of respondents disagreed or strongly disagreed, indicating that a sizable number of students feel that the studios may not adequately encourage innovation. In addition, 11.3% remained neutral, suggesting a degree of uncertainty or mixed experiences. These results thus indicate that while design studios are perceived by a majority of students as contributing to innovation development, there are areas for tuning studios for greater experimental support towards creative exploration.

**Table 4.157**

**There is adequate emphasis on teamwork and collaboration in architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 22 | 13.8 | 13.8 | 13.8 |
| | Disagree | 32 | 20.0 | 20.0 | 33.8 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 43.8 |
| | Agree | 62 | 38.8 | 38.8 | 82.5 |
| | Strongly Agree | 28 | 17.5 | 17.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.157**



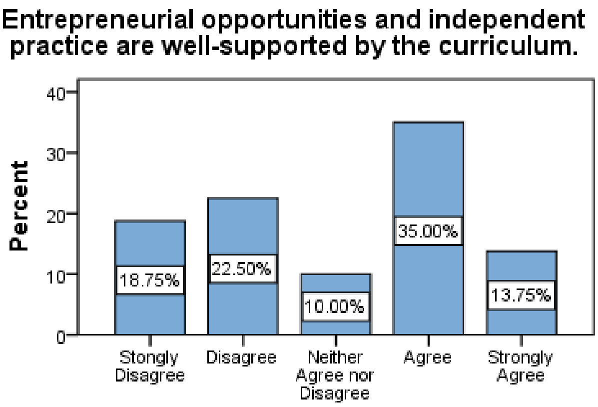

The data show that 56.3% of them agree or strongly agree on the idea that teamwork and collaboration skills have received enough emphasis in the architectural education. Yet 33.8% of respondents answered disagree or strongly disagree; this indicates that there is still a significant amount of students that feel there is a lack of collaboration in the process of learning. Furthermore, 10.0% of respondents remained neutral, indicating some degree of uncertainty or mixed experience. However, teamwork does not need an overhaul when it already constitutes a high percentage of architectural education; enhancing structured group work, leading between the disciplines or working on projects with diverse participants would serve to strengthen this component.

**Table 4.158**

**Entrepreneurial opportunities and independent practice are well-supported by the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 36 | 22.5 | 22.5 | 41.3 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 51.3 |
| | Agree | 56 | 35.0 | 35.0 | 86.3 |
| | Strongly Agree | 22 | 13.8 | 13.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.158**




Respondents do not particularly feel like the curriculum supports entrepreneurial opportunities and independent practice, with 48.8% either agreeing or strongly agreeing and 41.3% disagreeing or strongly disagreeing. The implication here is that approximately 50% of the respondents do not think architecture curricula are sufficient to prepare students for entrepreneurship or self-employment. Moreover, 10.0% are undecided which shows ambivalence or mixed experience as well. Less formal entrepreneurship education has the potential to better support and engage aspiring architectural entrepreneurs as well, ranging from more coursework on subjects like business management, start-up incubation, and legal aspects of going independent, to networking opportunities.

### 4.4.5 Challenges in Adopting Modern Technologies in Architectural Education:

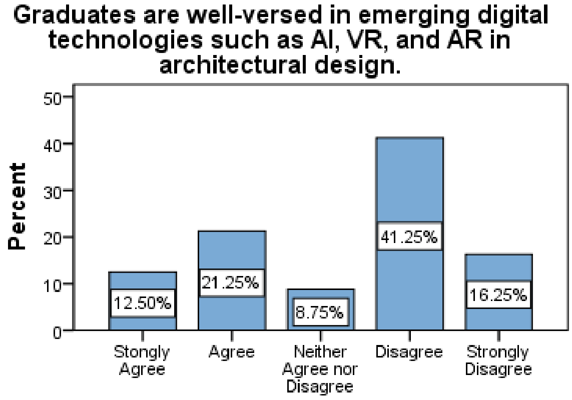
Following are the responses of industrial representatives towards challenges in adopting modern technologies in architectural education.

**Table 4.159**

**Graduates are well-versed in emerging digital technologies such as AI, VR, and AR in architectural design.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 20 | 12.5 | 12.5 | 12.5 |
| | Agree | 34 | 21.3 | 21.3 | 33.8 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 42.5 |
| | Disagree | 66 | 41.3 | 41.3 | 83.8 |
| | Strongly Disagree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.159**



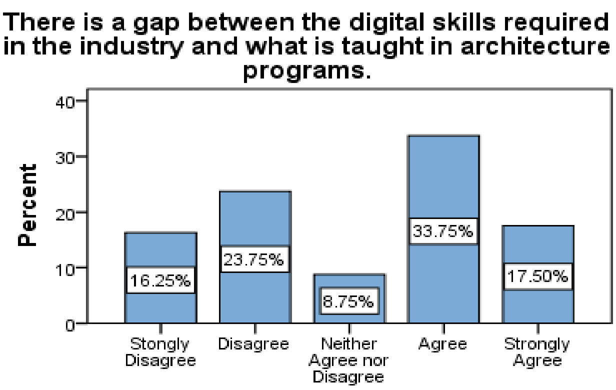

Based on the  survey, graduates may lack sufficient knowledge of introductory new digital technologies (such as AI, VR and AR in architectural design). While 33.8% of  respondents agree, or strongly agree that graduates were proficient in these technologies, almost twice as many, 57.6% either disagreed, or strongly disagreed, indicating a perceived gap in digital technology training. Meanwhile, 8.8% are neutral. To bridge this gap, architectural education must foster more integration of sophisticated digital technology to prepare graduates for the contemporary design landscape of the 21st century.

**Table 4.160**

**There is a gap between the digital skills required in the industry and what is taught in architecture programs.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 26 | 16.3 | 16.3 | 16.3 |
| | Disagree | 38 | 23.8 | 23.8 | 40.0 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 48.8 |
| | Agree | 54 | 33.8 | 33.8 | 82.5 |
| | Strongly Agree | 28 | 17.5 | 17.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.160**



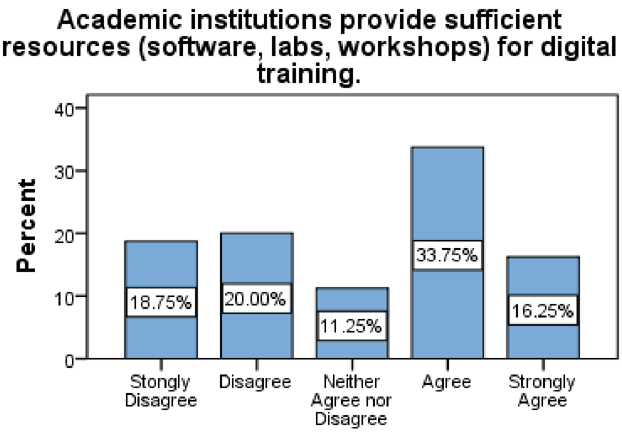

51.3% agree or strongly agree that a gap exists between the digital skills taught in architecture programs and the skills expected by industry Meanwhile, 40.1% either disagree or strongly disagree that the curriculum matches industry needs, indicating that a fair number feel industry requirements are reflected. 8.8% are still neutral. It indicates a meaningful but not extensive gap in training in digital skills. And even if many students feel prepared, much more could be done to make professional programs fit industry expectations. Integrating advanced software instruction, AI and machine learning design applications, collaborative platforms such as BIM, and immersive information technologies like virtual/augmented reality are steps that can bridge the gap and allow graduates to meet professional standards.

**Table 4.161**

**Academic institutions provide sufficient resources (software, labs, workshops) for digital training.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 32 | 20.0 | 20.0 | 38.8 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 50.0 |
| | Agree | 54 | 33.8 | 33.8 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.161**



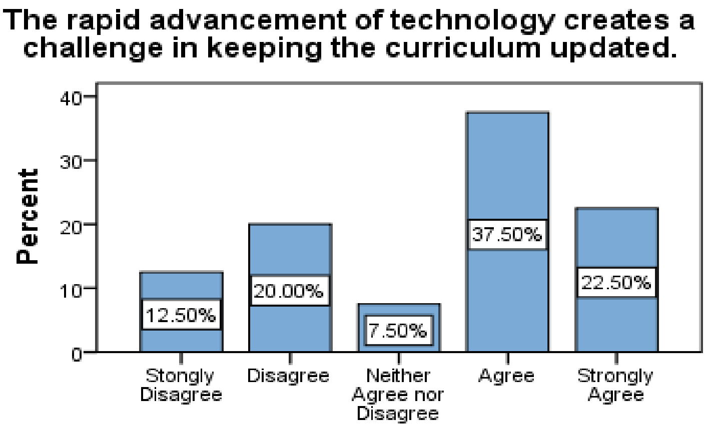

The data indicates that 50.1% (Agree + Strongly Agree) believes that academic institutions offer sufficient resources for digital training (38.8% (Strongly Disagree + Disagree)), while 11.3% of participants maintained a neutral stance. This indicates a contradictory perspective about the usability of digital resources such as software, labs and workshops. Although most say the resources are adequate, many don't. To adapt to industry requirements, institutions may have to improve access to industry-standard tools, modernise lab infrastructures, and ensure students receive practical experience using emerging technologies.

**Table 4.162**

**The rapid advancement of technology creates a challenge in keeping the curriculum updated.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 20 | 12.5 | 12.5 | 12.5 |
| | Disagree | 32 | 20.0 | 20.0 | 32.5 |
| | Neither Agree nor Disagree | 12 | 7.5 | 7.5 | 40.0 |
| | Agree | 60 | 37.5 | 37.5 | 77.5 |
| | Strongly Agree | 36 | 22.5 | 22.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.162**



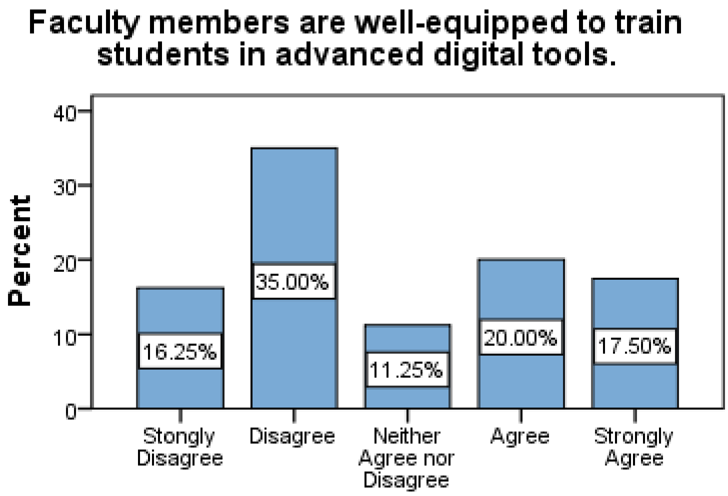

60% of respondents (Agree + Strongly Agree) strongly agree that keeping pace with the rapid development of technology is challenging with respect to the architecture curriculum. On the converse side, 32.5% (Strongly Disagree + Disagree) beg to differ, with 7.5% neutral. This presents one issue which speaks to a much larger issue with the curriculum and its adaptability to technological changes. With the fast-paced developments in AI, BIM, VR, AR and automation in architecture, academies will most probably have to make on-going course adjustments, coordinate with the industry to build better representation in academics and provide advanced skill improvement workshops at regular intervals to fill this gap.

**Table 4.163**

**Faculty members are well-equipped to train students in advanced digital tools.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 26 | 16.3 | 16.3 | 16.3 |
| | Disagree | 56 | 35.0 | 35.0 | 51.3 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 62.5 |
| | Agree | 32 | 20.0 | 20.0 | 82.5 |
| | Strongly Agree | 28 | 17.5 | 17.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.163**



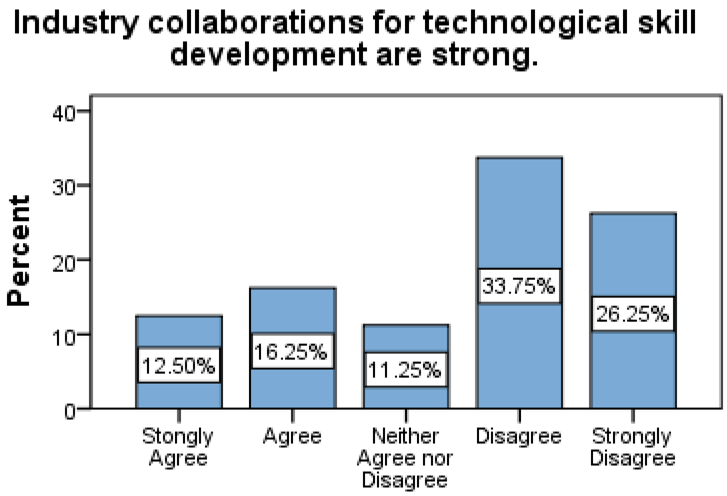

However, the survey results provide a mixed picture of how prepared faculty are to teach students about advanced digital tools. Only 37.5% of respondents agree or strongly agree that faculty members are well-prepared to make use of this resource, while a larger share, 51.3%, either disagrees or strongly disagrees, suggesting that a majority of faculty could stand to familiarize themselves with digital tools. And there are 11.3% which are neutral. As a result, this study reveals the necessity of faculty training and upskilling programs to improve their pedagogical skills to teach advanced digital technologies in architectural education.

**Table 4.164**

**Industry collaborations for technological skill development are strong.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 20 | 12.5 | 12.5 | 12.5 |
| | Agree | 26 | 16.3 | 16.3 | 28.8 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 40.0 |
| | Disagree | 54 | 33.8 | 33.8 | 73.8 |
| | Strongly Disagree | 42 | 26.3 | 26.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.164**



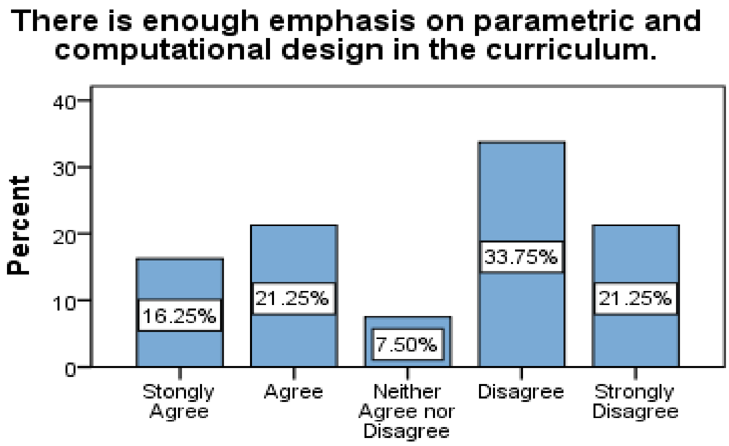

Any indication of partnerships between different sectors to better develop technological skills seems weak based on the survey results. Indeed, pollsters of Goettingen believe that it is this collaboration that is highly effective – this was agreed of strongly agree upon by 28.8% of respondents, nevertheless a majority of 60.1% disagreed or strongly disagreed that there was a strong industry-academic partnership in this area. Those remaining neutral stand at 11.3%. The author concludes by identifying a lack of meaningful industry engagement that could improve graduates' access to relevant skills training.

**Table 4.165**

**There is enough emphasis on parametric and computational design in the curriculum.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 26 | 16.3 | 16.3 | 16.3 |
| | Agree | 34 | 21.3 | 21.3 | 37.5 |
| | Neither Agree nor Disagree | 12 | 7.5 | 7.5 | 45.0 |
| | Disagree | 54 | 33.8 | 33.8 | 78.8 |
| | Strongly Disagree | 34 | 21.3 | 21.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.165**



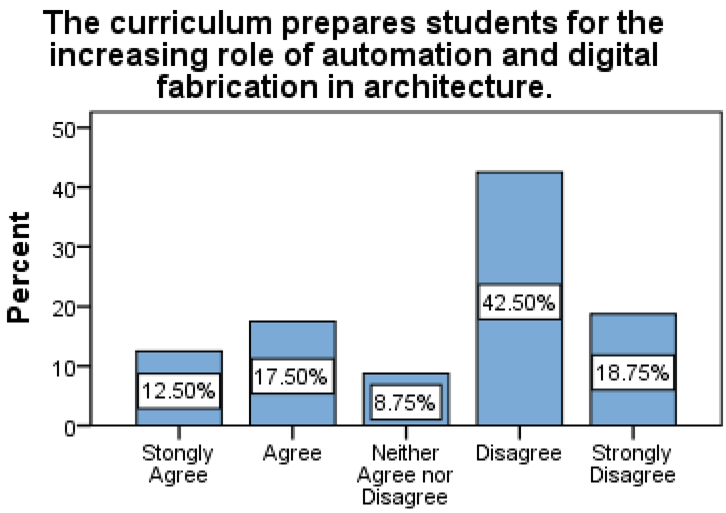

This indicates that there could be a lack of a focus on parametric and computational design in the curriculum. In contrast, a sizeable portion of respondents (55.1%) disagrees or strongly disagrees that these aspects are sufficiently covered, with only 37.5% agreeing or strongly agreeing that this is the case, from which it can be inferred that there is a gap perceived in this regard. 7.5% are neutral. The data demonstrates the significance of infusing the values of parametric and computational design philosophies in architectural academia in order to reflect and bridge the gap with the current progress in professional fields.

**Table 4.166**

**The curriculum prepares students for the increasing role of automation and digital fabrication in architecture.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Agree | 20 | 12.5 | 12.5 | 12.5 |
| | Agree | 28 | 17.5 | 17.5 | 30.0 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 38.8 |
| | Disagree | 68 | 42.5 | 42.5 | 81.3 |
| | Strongly Disagree | 30 | 18.8 | 18.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.166**



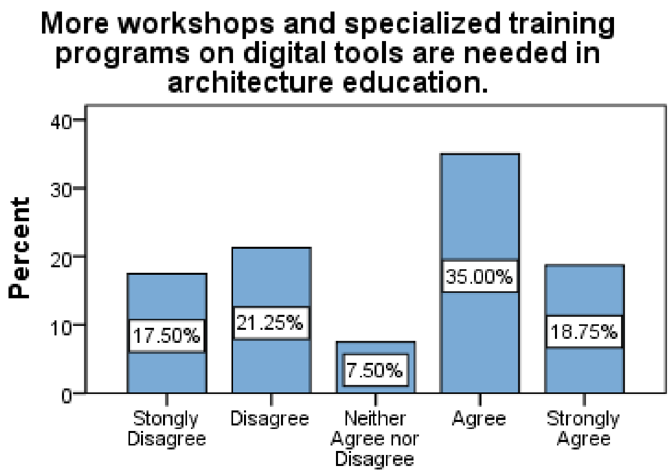

Overall, this indicates that some portions of the curriculum should be addressed with the increasing role of automatons and digital fabrication in architecture. In fact, only 30% of respondents agree or strongly agree that the curriculum is addressing these advancements, while 61.3% disagree or strongly disagree that the curriculum goes far enough in addressing new technologies. Moreover, 8.8% are alive and neutral. Our findings underscore the importance of the curriculum linked to automation and digital fabrication to be more integrated and well aligned with the demand of the industry as they continue to evolve.

**Table 4.167**

**More workshops and specialized training programs on digital tools are needed in architecture education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 34 | 21.3 | 21.3 | 38.8 |
| | Neither Agree nor Disagree | 12 | 7.5 | 7.5 | 46.3 |
| | Agree | 56 | 35.0 | 35.0 | 81.3 |
| | Strongly Agree | 30 | 18.8 | 18.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.167**



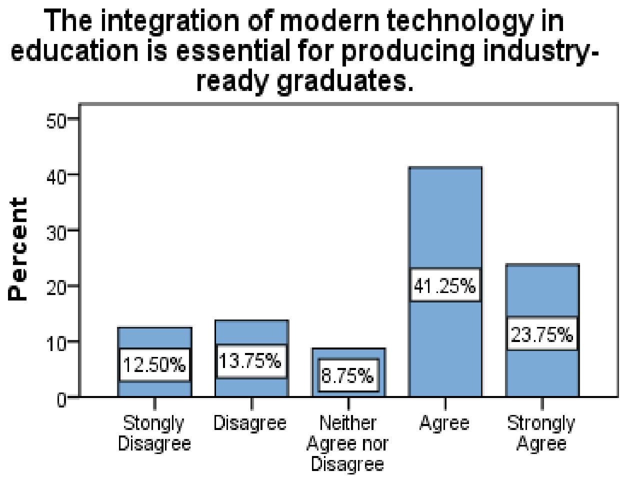

This demand for more workshop and training programs on digital tools within architecture education can be observed through the high percentage of agreement (53.8% Agree + Strongly Agree) on this necessity among all individual respondents. However, 38.8% (Strongly Disagree + Disagree) feel that our current offerings are adequate, and 7.5% are Neutral. This suggests a split perception, meaning that whilst there is digital training, gaps may exist when it comes to accessibility, depth or relevance. More practical exposure, software learning, design, and the building coming from industry should contribute to the digital architecture of the future.

**Table 4.168**

**The integration of modern technology in education is essential for producing industry-ready graduates.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 20 | 12.5 | 12.5 | 12.5 |
| | Disagree | 22 | 13.8 | 13.8 | 26.3 |
| | Neither Agree nor Disagree | 14 | 8.8 | 8.8 | 35.0 |
| | Agree | 66 | 41.3 | 41.3 | 76.3 |
| | Strongly Agree | 38 | 23.8 | 23.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.168**




The utilization of modern technology in education is understood to be crucial for developing industry-ready graduates, with 65.1% respondents (Agree + Strongly Agree) accepting the relevance of the above statement. Still, 26.3% (Strongly Disagree + Disagree) are sceptical about whether it will work or how it would be implemented, and 8.8% are neutral. This implies that though there is solid backing for the integration of technology, obstacles like curriculum alignment, faculty preparedness, and resource availability may influence its effectiveness. Through which they can mitigate these issues with regular curriculum updates, faculty training and improved access to cutting-edge tools to greater prepare graduates for the changing industry landscape.

### 4.4.6 Role of NEP 2020 in Curriculum Restructuring

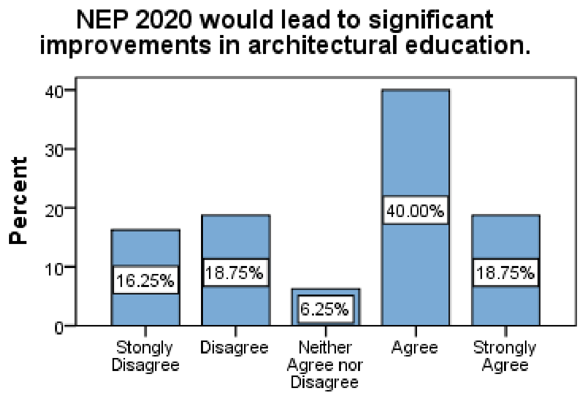
Following are the responses received from Industry participants towards their opinion towards the role of National Education Policy 2020 in architecture curriculum restructuring.

**Table 4.169**

**NEP 2020 would lead to significant improvements in architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 26 | 16.3 | 16.3 | 16.3 |
| | Disagree | 30 | 18.8 | 18.8 | 35.0 |
| | Neither Agree nor Disagree | 10 | 6.3 | 6.3 | 41.3 |
| | Agree | 64 | 40.0 | 40.0 | 81.3 |
| | Strongly Agree | 30 | 18.8 | 18.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.169**



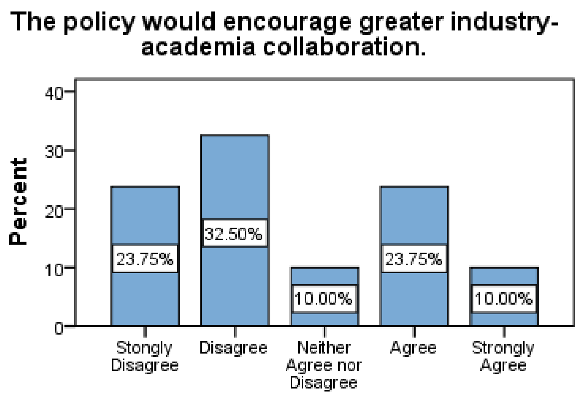

A majority section of the respondents are optimistic about NEP 2020's role in Upgrading Architectural Education with a cumulative 58.8% (Agree + Strongly Agree) respondents who feel so. Now 35.1% (Strongly Disagree + Disagree) are uncertain which means, there are concerns about either its implementation or effectiveness in addressing the key education gaps. It's evident that a small percentage (6.3%) are neutral, indicating a possible sense of ambiguity surrounding its potential ramifications. Although the policy focuses on improving flexibility, interdisciplinary education and skills, it will take the success of implementation, adaptability of the faculty, and cooperation with technology in order to decide whether the policy will help architects and architectural education in general in the country.

**Table 4.170**

**The policy would encourage greater industry-academia collaboration.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 38 | 23.8 | 23.8 | 23.8 |
| | Disagree | 52 | 32.5 | 32.5 | 56.3 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 66.3 |
| | Agree | 38 | 23.8 | 23.8 | 90.0 |
| | Strongly Agree | 16 | 10.0 | 10.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.170**




However, 56.3% (Strongly Disagree + Disagree) of respondents show disbelief that NEP 2020 would be able to bring convergence between industry and academia in architectural education. This contrasts with 33.8% (Agree + Strongly Agree) respondents that see promise in the policy's initiatives and 10% that are neutral. This suggests a disconnection in perception — perhaps the result of having doubts about the execution model or the preparedness of faculty or the initiatives being implemented by industry stakeholders to actively collaborate. To achieve this under NEP 2020 would need structured partnerships, student exposure to real world and proactive participation of the academia and industry professionals.

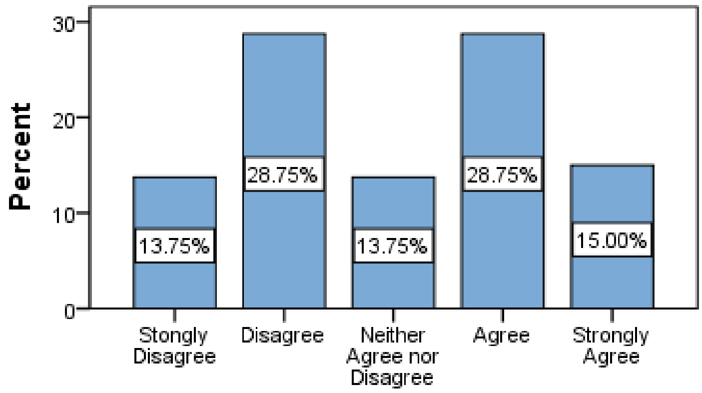
**Table 4.171**

**The reforms would help architecture students gain better practical exposure.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 22 | 13.8 | 13.8 | 13.8 |
| | Disagree | 46 | 28.8 | 28.8 | 42.5 |
| | Neither Agree nor Disagree | 22 | 13.8 | 13.8 | 56.3 |
| | Agree | 46 | 28.8 | 28.8 | 85.0 |
| | Strongly Agree | 24 | 15.0 | 15.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.171**

**The reforms would help architecture students gain better practical exposure.**



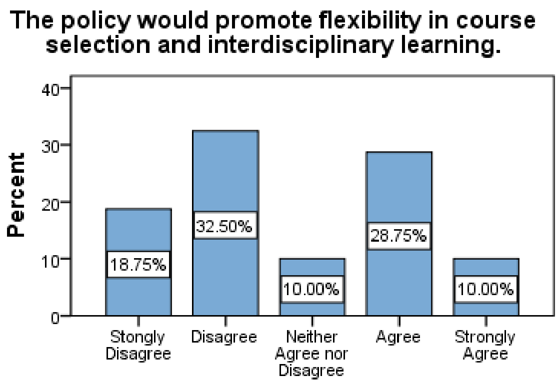

NEP 2020 reforms have received mixed reviews on whether they give architecture students better practical exposure. Though 43.8% (Agree + Strongly Agree) think the reforms would improve hands-on learning, a notable 42.6% (Strongly Disagree + Disagree) disagree. Meanwhile, 13.8% remain undecided on the issue. This divide indicates that although the initiatives show promise, the efficacy of reforms will be largely dependent on the execution of these strategies in practice and the degree to which such initiatives have integrated with industry efforts in university curricula.

**Table 4.172**

**The policy would promote flexibility in course selection and interdisciplinary learning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 30 | 18.8 | 18.8 | 18.8 |
| | Disagree | 52 | 32.5 | 32.5 | 51.3 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 61.3 |
| | Agree | 46 | 28.8 | 28.8 | 90.0 |
| | Strongly Agree | 16 | 10.0 | 10.0 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.172**



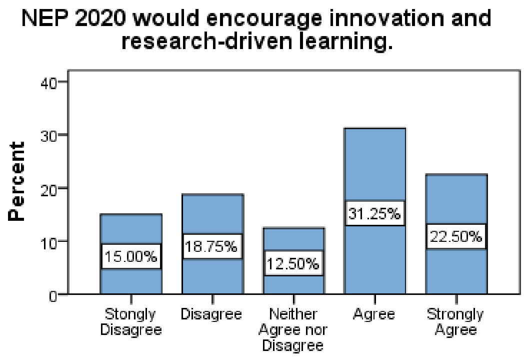

The sentiment about how NEP 2020 would change the existing paradigm of academic freedom has its shades of opinion, mostly positive, if not very favourable. 38.8% (Agree + Strongly Agree) agree that the policy would promote more academic flexibility, while 51.3% (Strongly Disagree + Disagree) disagree with that proposition. Meanwhile, 10% of respondents agree or disagree with neither. The results of this research suggest that although the policy suggests structural changes promoting academic freedom in design and research, its actual influence would rely heavily upon the institutions' adoption of the reforms, concurrent with interdisciplinary studies throughout the evolution of architectural education.

**Table 4.173**

**NEP 2020 would encourage innovation and research-driven learning.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 24 | 15.0 | 15.0 | 15.0 |
| | Disagree | 30 | 18.8 | 18.8 | 33.8 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 46.3 |
| | Agree | 50 | 31.3 | 31.3 | 77.5 |
| | Strongly Agree | 36 | 22.5 | 22.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.173**



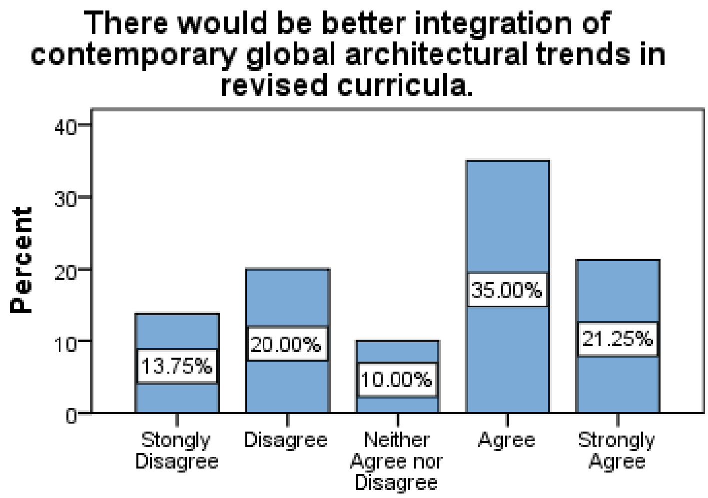

The response to NEP 2020 as a mechanism for promoting innovation and research-driven learning is mixed. More than half (53.8% [Agree + Strongly Agree]) of respondents feel that the policy will engender a more a research-oriented approach in education, but a significant fraction (33.8% [Strongly Disagree + Disagree]) is not convinced the policy will serve to drive innovation. The remaining 12.5% are neutral on the subject. Since the publication of the second (common) version of this paper, there has been a conscious effort to make the research more relevant and practical for decision makers, the result being that the policy is, in theory, designed to feed into research but it will largely depend on how higher education institutions choose to implement things, and whether the will to act accompanies the research led strategies through the use of adequate resources for innovation.

**Table 4.174**

**There would be better integration of contemporary global architectural trends in revised curricula.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 22 | 13.8 | 13.8 | 13.8 |
| | Disagree | 32 | 20.0 | 20.0 | 33.8 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 43.8 |
| | Agree | 56 | 35.0 | 35.0 | 78.8 |
| | Strongly Agree | 34 | 21.3 | 21.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.174**



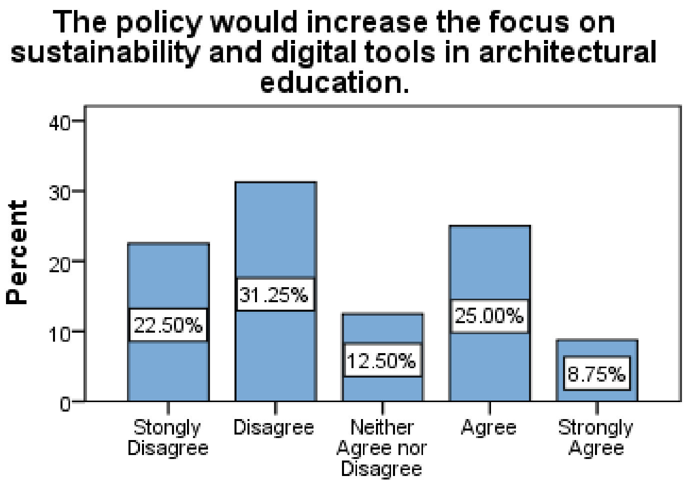

Curricula under the NEP 2020 incorporating global architectural trends is positively welcomed by most respondents. 56.3% (Agree + Strongly Agree) states that the revised curricula incorporating modern architectural developments and 33.8% (Strongly Disagree + Disagree) are doubtful about whether they will be implemented. Another 10% of respondents are neutral. These findings indicate that while optimism exists regarding the alienability of the curriculum to global trends, its success would depend on how effective the institutions are in aligning to a changing world of architectural practice.

**Table 4.175**

**The policy would increase the focus on sustainability and digital tools in architectural education.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 36 | 22.5 | 22.5 | 22.5 |
| | Disagree | 50 | 31.3 | 31.3 | 53.8 |
| | Neither Agree nor Disagree | 20 | 12.5 | 12.5 | 66.3 |
| | Agree | 40 | 25.0 | 25.0 | 91.3 |
| | Strongly Agree | 14 | 8.8 | 8.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.175**



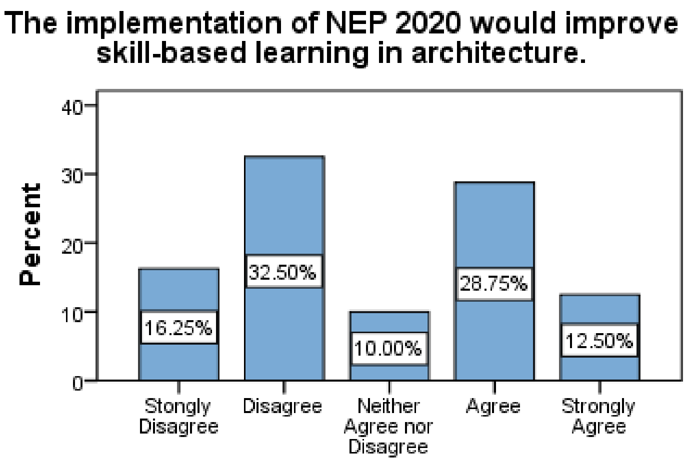

As we analyse the perspective that NEP 2020 brings in terms of increasing the emphasis on sustainability and digital tools in architectural pedagogy, it is a mixed bag. Where 33.8% (Agree + Strongly Agree) think that the policy will improve both these elements, a whopping 53.8% (Strongly Disagree + Disagree) doubt that it will improve these elements. Another 12.5%) are neutral on the issue. These findings suggest that while some respondents recognize the potential of the policy, there is significant scepticism about its effectiveness in embedding sustainability and digital developments in architectural education.

**Table 4.176**

**The implementation of NEP 2020 would improve skill-based learning in architecture.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 26 | 16.3 | 16.3 | 16.3 |
| | Disagree | 52 | 32.5 | 32.5 | 48.8 |
| | Neither Agree nor Disagree | 16 | 10.0 | 10.0 | 58.8 |
| | Agree | 46 | 28.8 | 28.8 | 87.5 |
| | Strongly Agree | 20 | 12.5 | 12.5 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.176**



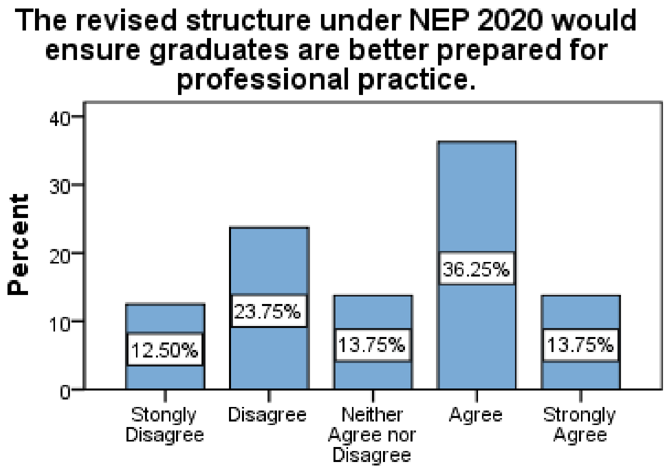

NEP 2020's role in enhancing skill-based learning in architecture is met with mixed responses. While 41.3% of respondents (Agree + Strongly Agree) think the policy will promote skill-based education—however, a greater percentage of respondents (48.8%: Strongly Disagree + Disagree) do not believe it will fulfil this goal. In fact, 10% of respondents are neutral. This implies that although some individuals acknowledge the theoretical advantages of the policy, they actually believe that it will not lead to dramatic improvements in skill development in architectural education.

**Table 4.177**

**The revised structure under NEP 2020 would ensure graduates are better prepared for professional practice.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 20 | 12.5 | 12.5 | 12.5 |
| | Disagree | 38 | 23.8 | 23.8 | 36.3 |
| | Neither Agree nor Disagree | 22 | 13.8 | 13.8 | 50.0 |
| | Agree | 58 | 36.3 | 36.3 | 86.3 |
| | Strongly Agree | 22 | 13.8 | 13.8 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.177**



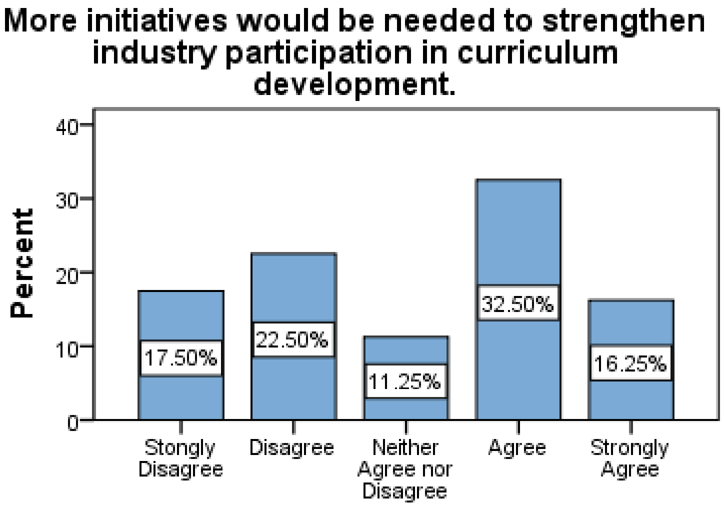

The perception of the effectiveness of NEP 2020 in preparing architecture graduates for professional practice is mixed. Half of the respondents (50.1%) (Agree + Strongly Agree) had an optimistic outlook on how the new structure would promote professional readiness over a quarter (36.3%) (Strongly Disagree + Disagree) were sceptical. And 13.8% are neutral. This suggests some cautious optimism, but a comparatively large number of – often uncertain – respondents as to whether the policy will indeed make a difference bridging the divide between academia and the profession.

**Table 4.178**

**More initiatives would be needed to strengthen industry participation in curriculum development.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Stongly Disagree | 28 | 17.5 | 17.5 | 17.5 |
| | Disagree | 36 | 22.5 | 22.5 | 40.0 |
| | Neither Agree nor Disagree | 18 | 11.3 | 11.3 | 51.3 |
| | Agree | 52 | 32.5 | 32.5 | 83.8 |
| | Strongly Agree | 26 | 16.3 | 16.3 | 100.0 |
| | Total | 160 | 100.0 | 100.0 | |

**Figure 4.178**




This indicates a strong demand for greater involvement of industry in the development of curricula. And another 48.8% (Agree + Strongly Agree) believe that more industry initiatives should be undertaken to strengthen our overall collaboration, while a substantial 40% (Strongly Disagree + Disagree) disagree. Another 11.3% are neutral towards the approach. This suggests that while many people feel that industry collaboration should improve, a sizeable number either don't agree or do not have an opinion on the matter.

**4.5 Comparative Graphical Analysis of Responses:** Following is the comparative graphic analysis of the responses of stake holders on similar type of questions.

### 4.5.1 Alignment of Curriculum with Industry Needs

**A. Architectural education aligns well with current industry demands and professional challenges.**

**Figure 4.179**

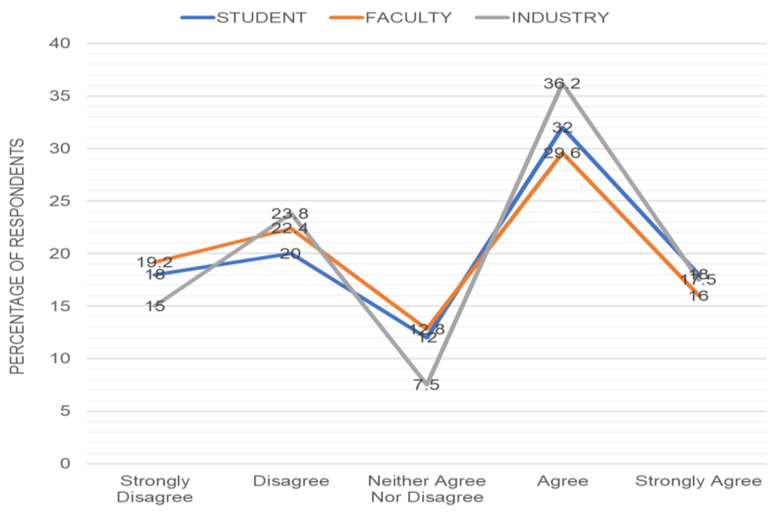



**Table 4.179**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 20.0 | 12.0 | 32.0 | 18.0 |
| FACULTY | 19.2 | 22.4 | 12.8 | 29.6 | 16.0 |
| INDUSTRY | 15.0 | 23.8 | 7.5 | 36.2 | 17.5 |

**Student:** Students are split, with a slight lean toward agreement.

**Faculty:** Faculty are also divided, with no clear majority.

**Industry:** Industry is mostly positive, but many still disagree.

**Inference:** All groups see some alignment, but significant doubts remain.

**B. The syllabus includes sufficient exposure to practical aspects of architectural practice.**

**Figure 4.180**

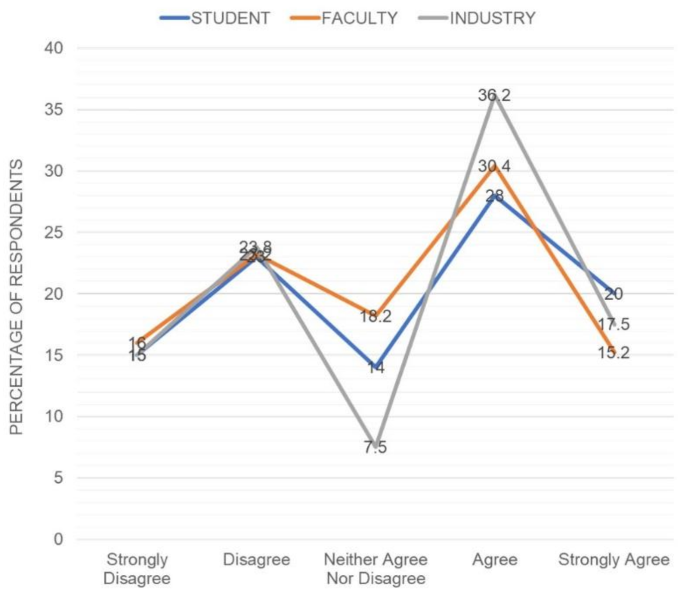



**Table 4.180**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 15.0 | 23.0 | 14.0 | 28.0 | 20.0 |
| FACULTY | 16.0 | 23.2 | 18.2 | 30.4 | 15.2 |
| INDUSTRY | 15.0 | 23.8 | 7.5 | 36.2 | 17.5 |

**Student:** Students are divided; many feel practical exposure is lacking, but some are satisfied.

**Faculty:** Faculty are also split, with a slight majority seeing insufficient practical exposure.

**Industry:** Industry is mostly critical, with most respondents feeling practical exposure is not enough.

**Inference:** All groups see room for improvement in practical exposure, with industry being the most critical.

**C. The curriculum provides adequate knowledge about professional ethics and laws.**

**Figure 4.181**

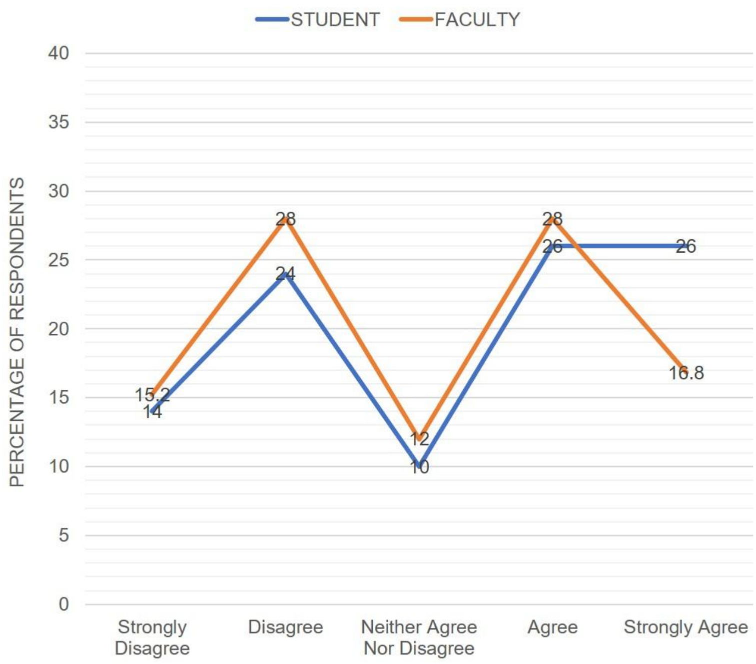



**Table 4.181**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 14.0 | 24.0 | 10.0 | 26.0 | 26.0 |
| FACULTY | 15.2 | 28.0 | 12.0 | 28.0 | 16.8 |

**Student**: Students are mostly positive, with many agreeing.

**Faculty**: Faculty are mixed, with similar numbers agreeing and disagreeing.

**Industry**: No industry data for this question.

**Inference**: Students are more satisfied than faculty with ethics and law coverage.

**D. Emerging architectural trends such as sustainability and smart cities are covered adequately.**

**Figure 4.182**

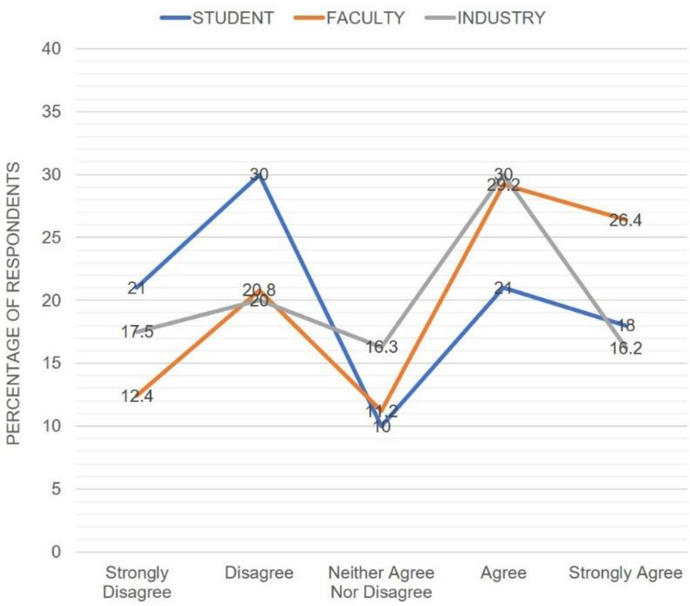



**Table 4.182**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 21.0 | 30.0 | 10.0 | 21.0 | 18.0 |
| FACULTY | 12.4 | 20.8 | 11.2 | 29.2 | 26.4 |
| INDUSTRY | 17.5 | 20 | 16.3 | 30 | 16.2 |

**Student:** Many students feel coverage of emerging trends is insufficient, with more disagreeing than agreeing.

**Faculty:** Faculty are more positive, with a majority agreeing coverage is adequate, but some still see gaps.

**Industry:** Industry is mixed, with a significant number agreeing, but many remain unconvinced about adequacy.

**Inference:** While faculty are relatively satisfied, both students and industry see the need for better integration of emerging trends like sustainability and smart cities in the curriculum.

**E. The transition from academic learning to professional practice is seamless.**

**Figure 4.183**

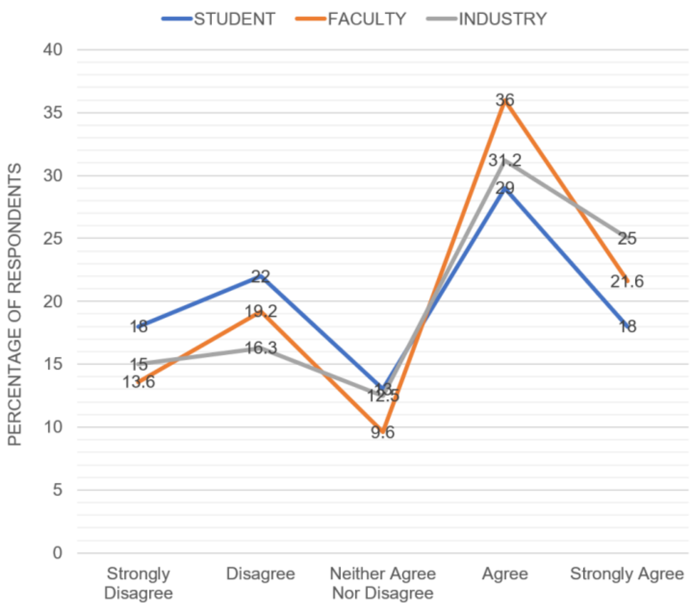



**Table 4.183**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 22.0 | 13.0 | 29.0 | 18.0 |
| FACULTY | 13.6 | 19.2 | 9.6 | 36.0 | 21.6 |
| INDUSTRY | 15 | 16.3 | 12.5 | 31.2 | 25 |

**Student:** Most students find the transition to practice challenging.

**Faculty:** Faculty also see the transition as not fully seamless.

**Industry:** Industry is mostly critical, seeing a clear gap between academics and practice.

**Inference:** All groups agree the transition from education to practice needs significant improvement.

**F. The skills acquired during the program match employer expectations.**

**Figure 4.184**

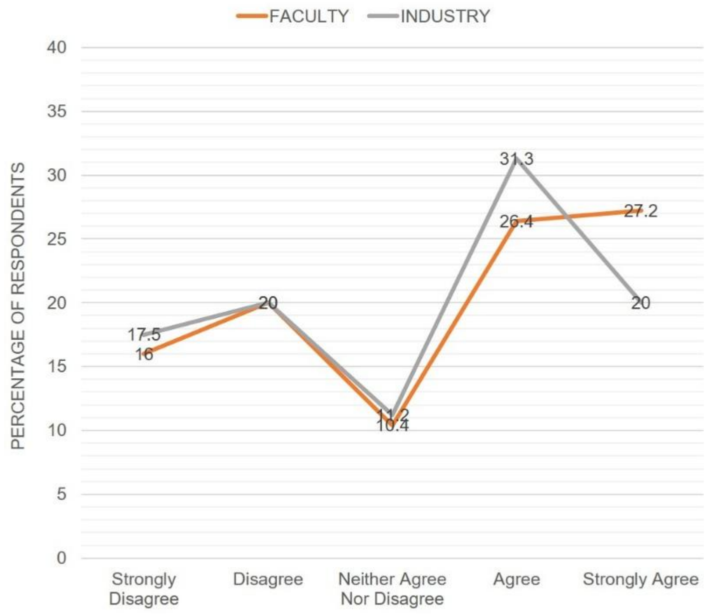



**Table 4.184**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| FACULTY | 16.0 | 20.0 | 10.4 | 26.4 | 27.2 |
| INDUSTRY | 17.5 | 20 | 11.2 | 31.3 | 20 |

**Faculty:** Faculty generally feel the skills taught are aligned with what employers expect.

**Industry:** Industry also feels the program's skills mostly meet their expectations.

**Inference**: Both faculty and industry see a good match between program skills and employer needs.

**G. Industry professionals actively contribute to academic training.**

**Figure 4.185**

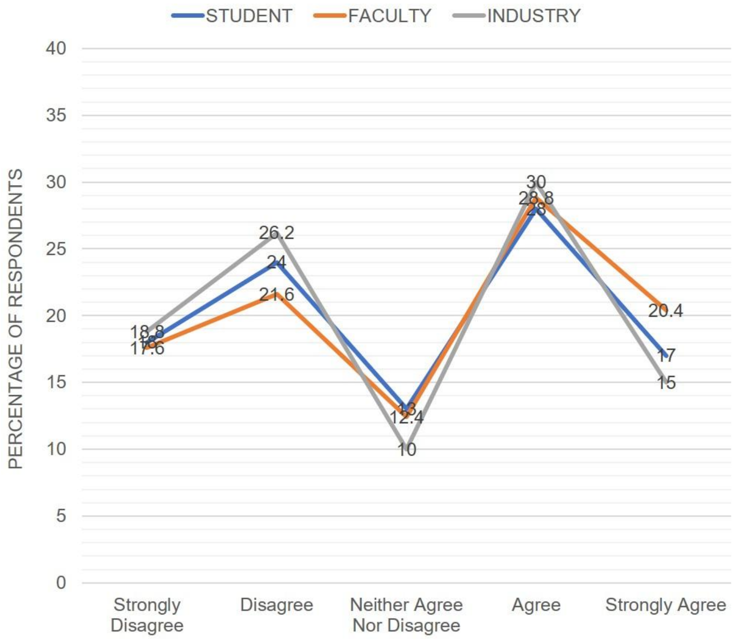



**Table 4.185**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 24.0 | 13.0 | 28.0 | 17.0 |
| FACULTY | 17.6 | 21.6 | 12.4 | 28.8 | 20.4 |
| INDUSTRY | 18.8 | 26.2 | 10 | 30 | 15 |

**Student:** Students are divided; some feel industry professionals are involved, others do not.

**Faculty:** Faculty also have mixed views about industry participation in training.

**Industry:** Industry is similarly divided on their level of contribution.

**Inference:** All groups see some industry involvement, but many feel it could be stronger.

**H. Students have sufficient exposure to real-world projects during their academic training.**

**Figure 4.186**


**Table 4.186**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 12.0 | 24.0 | 13.0 | 34.0 | 17.0 |
| FACULTY | 13.6 | 23.2 | 16.8 | 31.2 | 15.2 |
| INDUSTRY | 15 | 26.2 | 13.8 | 31.2 | 13.8 |

**Student:** Students are mixed; some feel they get enough real-world exposure, others disagree.

**Faculty:** Faculty also have varied opinions about the sufficiency of real-world project exposure.

**Industry:** Industry sees some exposure but feels it could be improved.

**Inference:** All groups agree real-world project exposure is present, but there is room for more.

**I. The curriculum is regularly updated to reflect industry advancements**

**Figure 4.187**

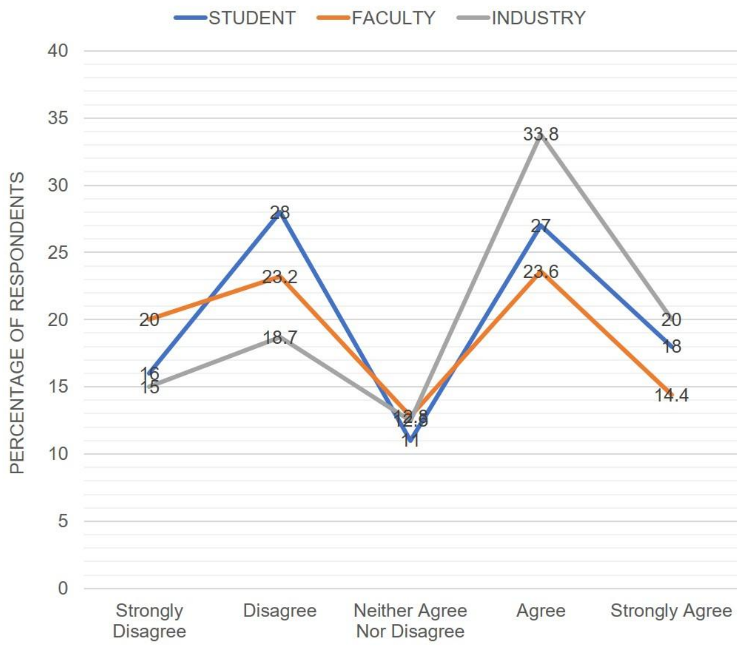



**Table 4.187**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 16.0 | 28.0 | 11.0 | 27.0 | 18.0 |
| FACULTY | 20.0 | 23.2 | 12.8 | 23.6 | 14.4 |
| INDUSTRY | 15 | 18.7 | 12.5 | 33.8 | 20 |

**Student:** Students are divided; some think updates are regular, others do not.

**Faculty:** Faculty are more doubtful about how often the curriculum is updated.

**Industry:** Industry is more positive, seeing updates as fairly regular.

**Inference:** There is some disagreement, but industry is more satisfied with curriculum updates than faculty or students.

### 4.5.2 Impact of Curriculum Rigidity on Adaptability to Trends:

**A. The curriculum allows flexibility in choosing electives based on emerging architectural fields.**

**Figure 4.188**


**Table 4.188**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 13.0 | 22.0 | 12.0 | 30.0 | 23.0 |
| FACULTY | 15.2 | 20.8 | 12.0 | 27.2 | 24.8 |
| INDUSTRY | 16.3 | 23.8 | 12.5 | 31.2 | 16.2 |

**Student:** Students are mostly positive about elective flexibility.

**Faculty:** Faculty are also positive, with many agreeing.

**Industry:** Industry is positive but less strongly than students and faculty.

**Inference:** Most groups see some flexibility, but not all are fully satisfied

**B. The rigid structure of the syllabus restricts exposure to interdisciplinary studies.**

**Figure 4.189**

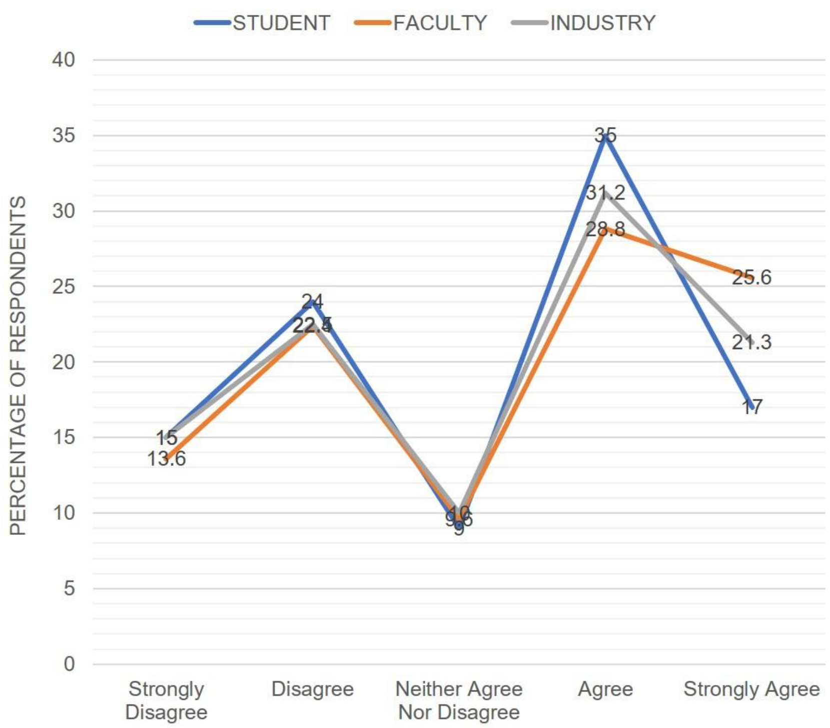



**Table 4.189**

| Category | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 15.0 | 24.0 | 9.0 | 35.0 | 17.0 |
| FACULTY | 13.6 | 22.4 | 9.6 | 28.8 | 25.6 |
| INDUSTRY | 15 | 22.5 | 10 | 31.2 | 21.3 |

**Student:** Most students agree rigidity limits interdisciplinary exposure.

**Faculty:** Faculty also agree syllabus rigidity is a restriction.

**Industry:** Industry agrees, but with a slightly lower percentage.

**Inference:** All groups recognize syllabus rigidity as a barrier to interdisciplinary learning

**C. The curriculum enables students to adapt quickly to evolving architectural technologies**

**Figure 4.190**

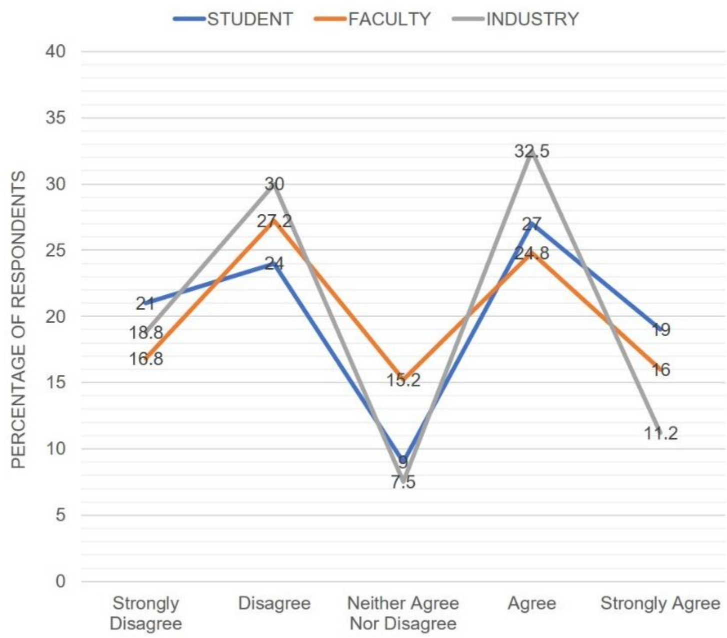



**Table 4.190**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 21.0 | 24.0 | 9.0 | 27.0 | 19.0 |
| FACULTY | 16.8 | 27.2 | 15.2 | 24.8 | 16.0 |
| INDUSTRY | 18.8 | 30 | 7.5 | 32.5 | 11.2 |

**Student:** Many students doubt the curriculum supports quick adaptation.

**Faculty:** Faculty are mixed, with no clear majority.

**Industry:** Industry is mostly negative about adaptability.

**Inference:** Most groups feel the curriculum does not fully support quick adaptation to new technologies.

.

**D. Architectural education encourages innovation and experimentation.**

**Figure 4.191**

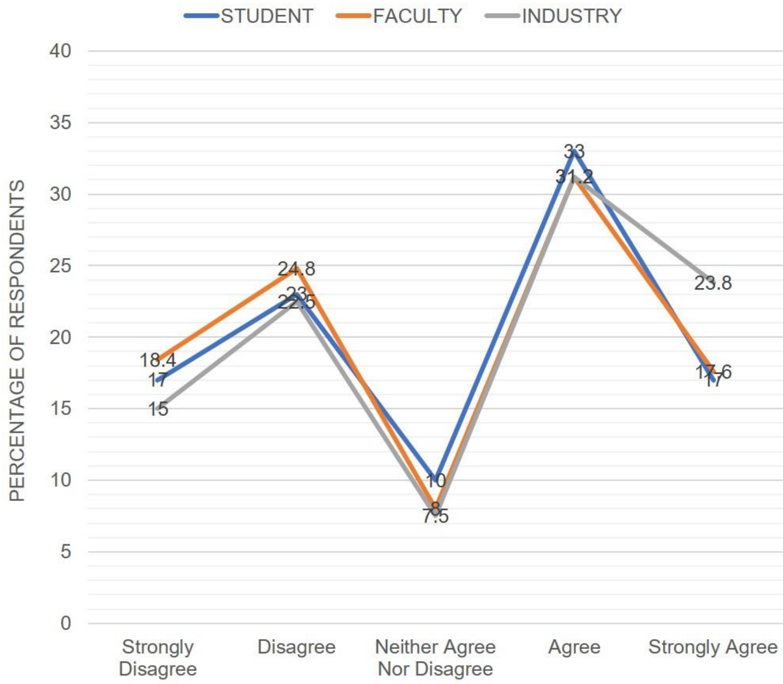



**Table 4.191**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 17.0 | 23.0 | 10.0 | 33.0 | 17.0 |
| FACULTY | 18.4 | 24.8 | 8.0 | 31.2 | 17.6 |
| INDUSTRY | 15 | 22.5 | 7.5 | 31.2 | 23.8 |

**Student:** Students are split on encouragement for innovation.

**Faculty:** Faculty are also divided on innovation encouragement.

**Industry:** Industry is more positive, but not overwhelmingly so.

**Inference:** Innovation is encouraged to some extent, but not strongly across all groups.

**E. Opportunities for interdisciplinary learning (e.g., urban planning, AI in architecture) are sufficient**.

**Figure 4.192**

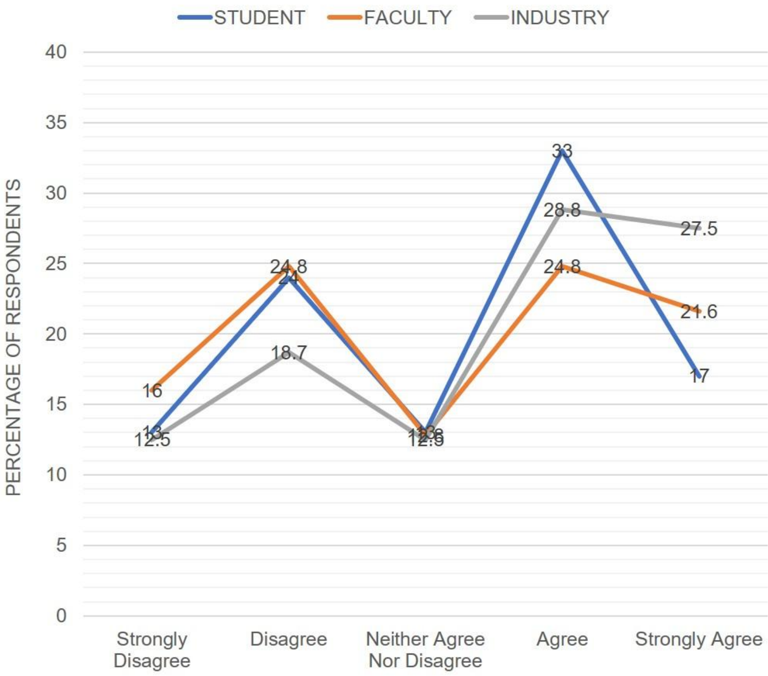



**Table 4.192**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 13.0 | 24.0 | 13.0 | 33.0 | 17.0 |
| FACULTY | 16.0 | 24.8 | 12.8 | 24.8 | 21.6 |
| INDUSTRY | 12.5 | 18.7 | 12.5 | 28.8 | 27.5 |

**Student:** Students are mixed, with a slight lean toward agreement.

**Faculty:** Faculty are divided, with no clear consensus.

**Industry:** Industry is more positive, with many agreeing opportunities are sufficient.

**Inference:** Interdisciplinary opportunities are seen as better by industry than by students or faculty, but improvement is still needed.

**F. International best practices in architecture education are incorporated into the curriculum.**

**Figure 4.193**

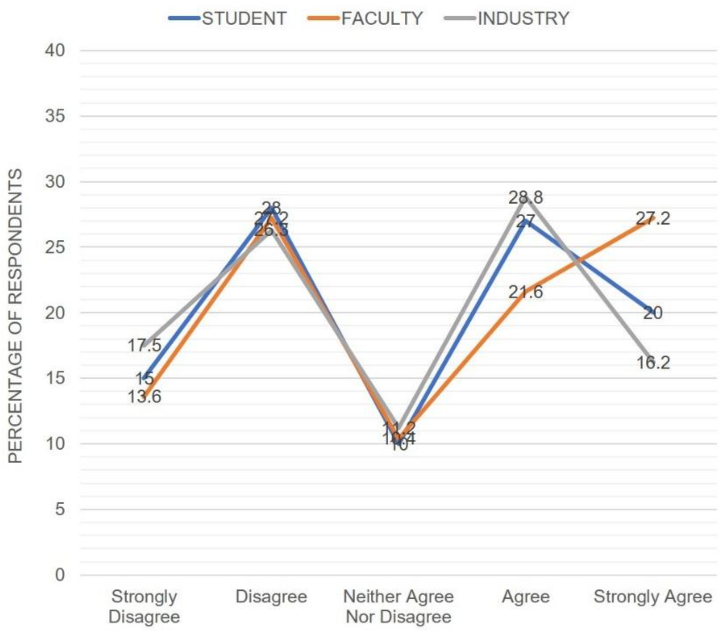



**Table 4.193**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 15.0 | 28.0 | 10.0 | 27.0 | 20.0 |
| FACULTY | 13.6 | 27.2 | 10.4 | 21.6 | 27.2 |
| INDUSTRY | 17.5 | 26.3 | 11.2 | 28.8 | 16.2 |

**Student:** Students are divided on whether international best practices are included.

**Faculty:** Faculty also have mixed views on the integration of international standards.

**Industry:** Industry sees some incorporation but is not fully convinced.

**Inference:** All groups see some effort to include global practices, but many feel it could be better.

**G. Self-directed research and project-based learning are encouraged.**

**Figure 4.194**

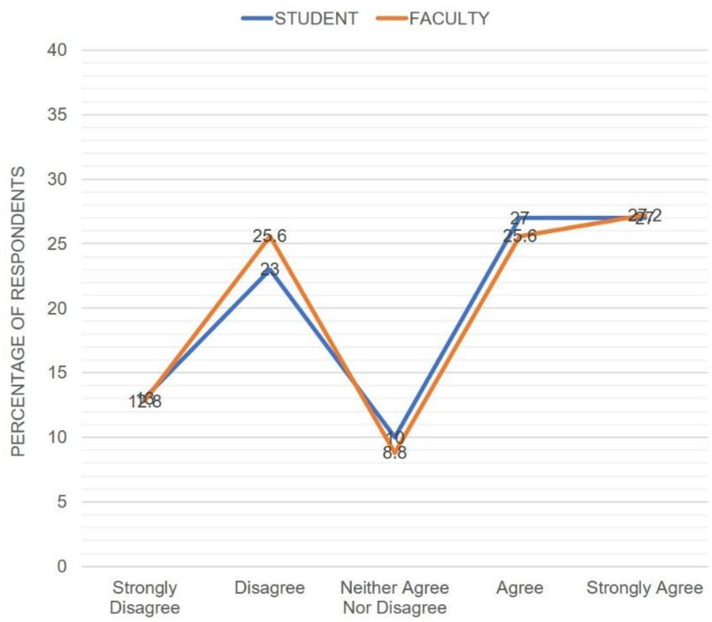



**Table 4.194**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 13.0 | 23.0 | 10.0 | 27.0 | 27.0 |
| FACULTY | 12.8 | 25.6 | 8.8 | 25.6 | 27.2 |

**Student:** Students are divided; about as many feel encouragement is lacking as those who feel it is present.

**Faculty:** Faculty are also split, with nearly equal numbers agreeing and disagreeing about the encouragement of self-directed research and project-based learning.

**Inference:** Both students and faculty are evenly divided, suggesting that encouragement for self-directed research and project-based learning is inconsistent or not clearly communicated across the program.

**H. Students have opportunities to participate in competitions, hackathons, and design challenges.**

**Figure 4.195**

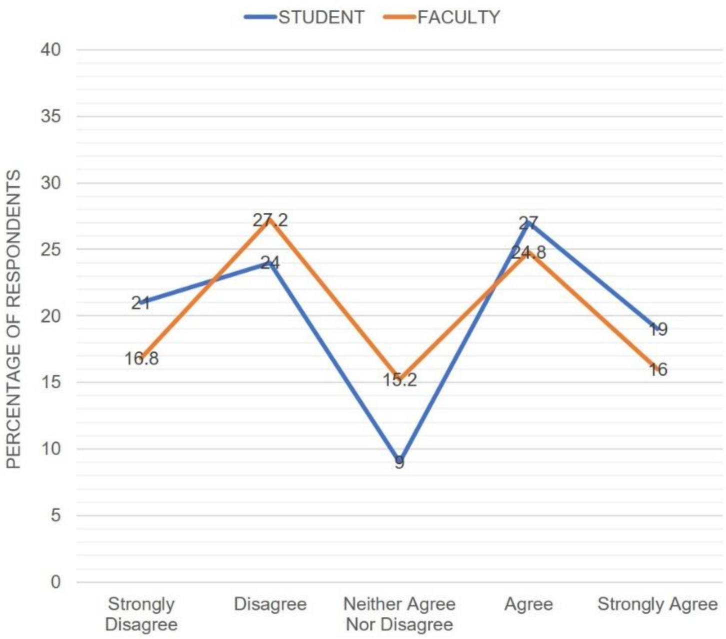



**Table 4.195**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 14.0 | 23.0 | 10.0 | 28.0 | 25.0 |
| FACULTY | 12.8 | 22.4 | 13.6 | 28.0 | 23.2 |

**Student:** Students are again nearly evenly divided, with no strong majority feeling either satisfied or dissatisfied.

**Faculty:** Faculty responses are also mixed, showing no clear consensus on the sufficiency of such opportunities.

**Inference:** Both groups are split, suggesting that while opportunities exist, their availability or visibility may not be consistent for everyone.

**I. Faculty members integrate the latest architectural trends in their teaching methods**

**Figure 4.196**

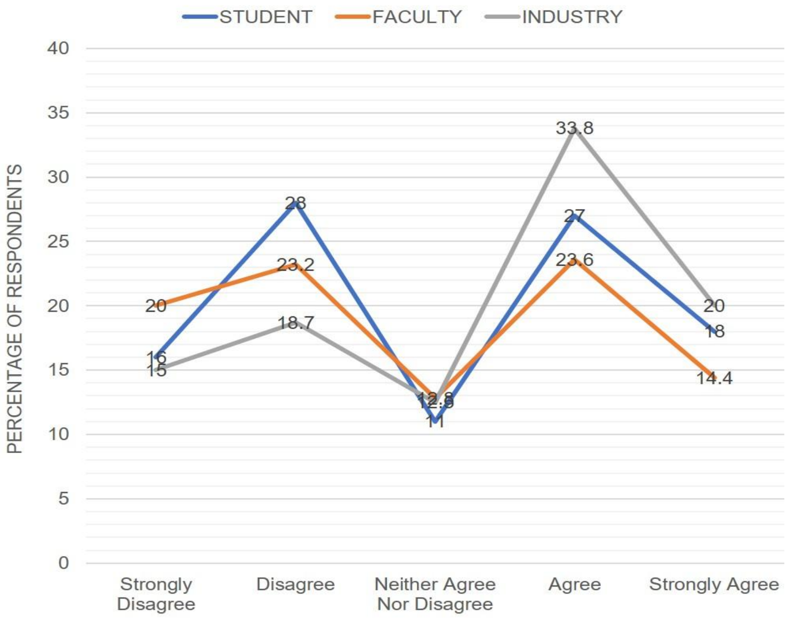



**Table 4.196**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 10.0 | 27.0 | 11.0 | 27.0 | 15.0 |
| FACULTY | 12.8 | 25.6 | 14.4 | 28.0 | 19.2 |

**Student:** Students are mixed; some see integration of new trends, others do not.

**Faculty:** Faculty generally feel they are incorporating the latest trends in their teaching.

**Inference:** Faculty are more confident than students about integrating new trends in teaching.

**J. Outdated concepts and theories are promptly replaced with modern trends.**

**Figure 4.197**

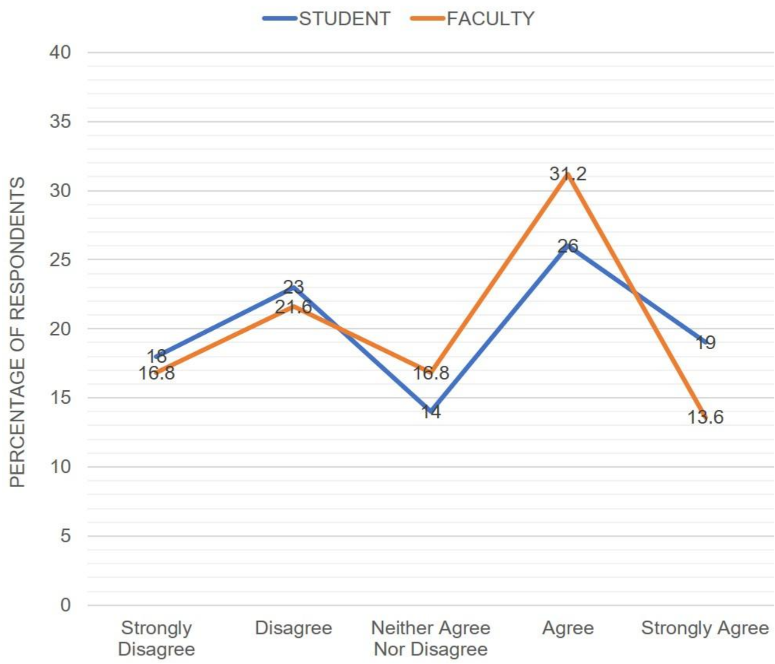



**Table 4.197**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 23.0 | 14.0 | 26.0 | 19.0 |
| FACULTY | 16.8 | 21.6 | 16.8 | 31.2 | 13.6 |

**Student:** Students are divided; some feel updates happen quickly, others disagree.

**Faculty:** Faculty also have mixed views on how promptly updates occur.

**Inference:** Both students and faculty see some progress, but many feel updates could be faster.

### 4.5.3 Effectiveness of Practical Training and Skill Development

**A.Hands-on training, model-making, and prototyping are emphasized in coursework.**

**Figure 4.198**

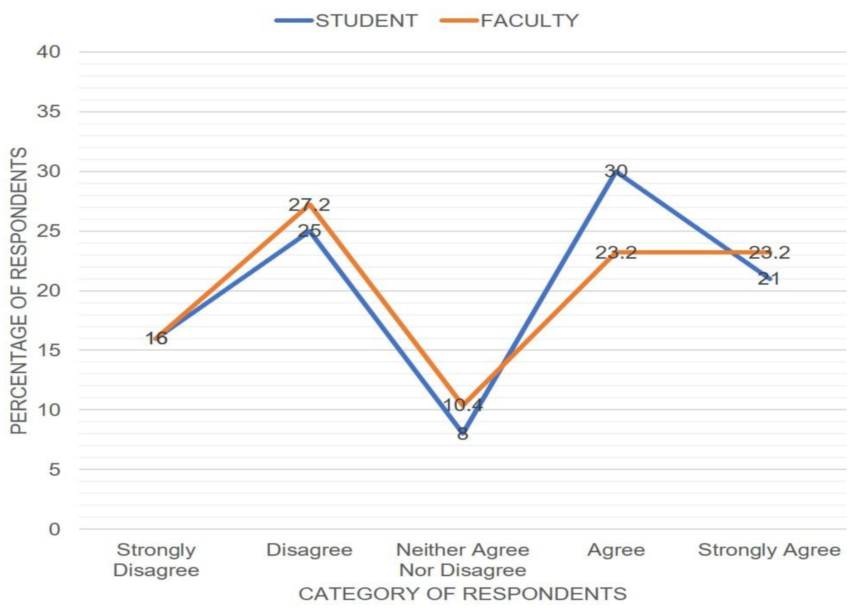



**Table 4.198**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 16.0 | 25.0 | 8.0 | 30.0 | 21.0 |
| FACULTY | 16.0 | 27.2 | 10.4 | 23.2 | 23.2 |

**Student:** Students are split; many agree, but many disagree.

**Faculty:** Faculty are also divided on training adequacy.

**Inference:** Training in new tools is seen as inconsistent by both groups.

**B. Architectural software and digital tools and technologies are well-integrated into the curriculum.**

**Figure 4.199**

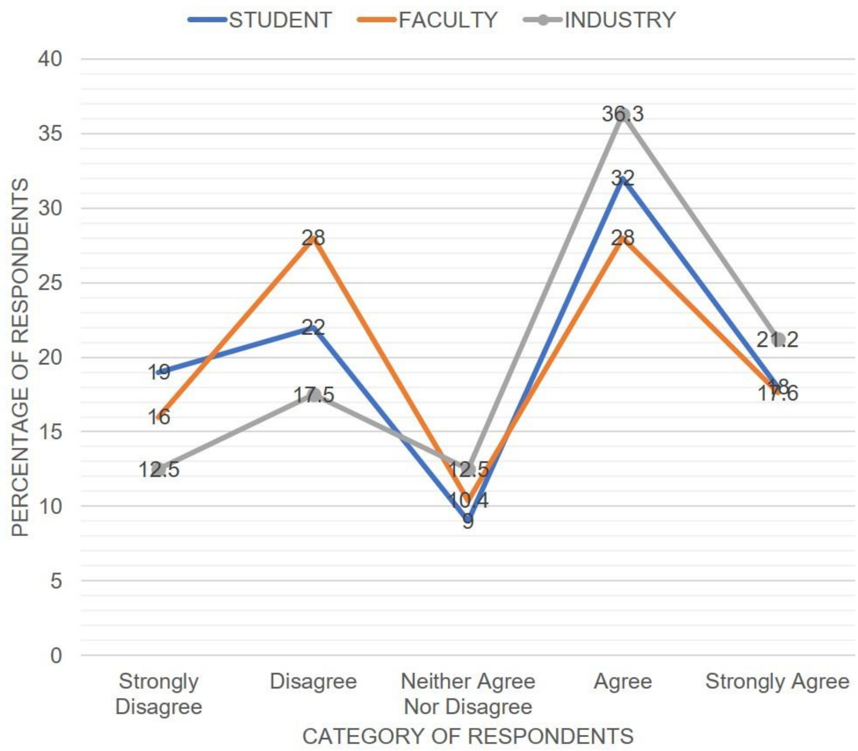



**Table 4.199**

| Category | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 19.0 | 22.0 | 9.0 | 32.0 | 18.0 |
| FACULTY | 16.0 | 28.0 | 10.4 | 28.0 | 17.6 |
| INDUSTRY | 12.5 | 17.5 | 12.5 | 36.3 | 21.2 |

**Student:** Students are mixed; about half say resources are enough.

**Faculty:** Faculty opinions are also split on resources.

**Industry:** Industry is slightly more positive but still sees gaps.

**Inference:** Resource sufficiency is uncertain across all groups.

**C. Field visits, live projects, and case studies enhance learning experiences.**

**Figure 4.200**

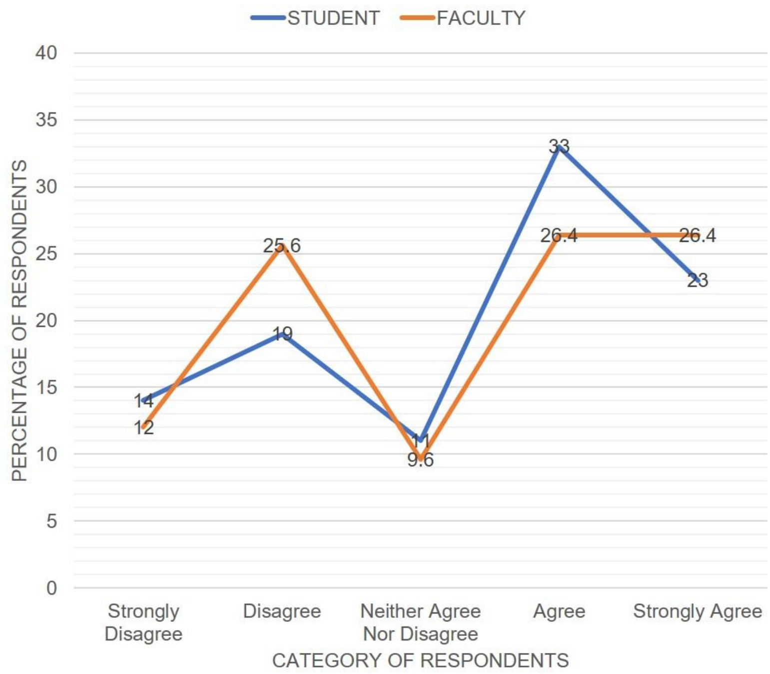



**Table 4.200**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 14.0 | 19.0 | 11.0 | 33.0 | 23.0 |
| FACULTY | 12.0 | 25.6 | 9.6 | 26.4 | 26.4 |

**Student:** Most students see a gap with industry needs.

**Faculty:** Faculty also mostly agree there is a gap.

**Inference:** Both groups agree there is a gap with industry requirements.

**D. The mandatory internship period is sufficient for practical skill development.**

**Figure 4.201**

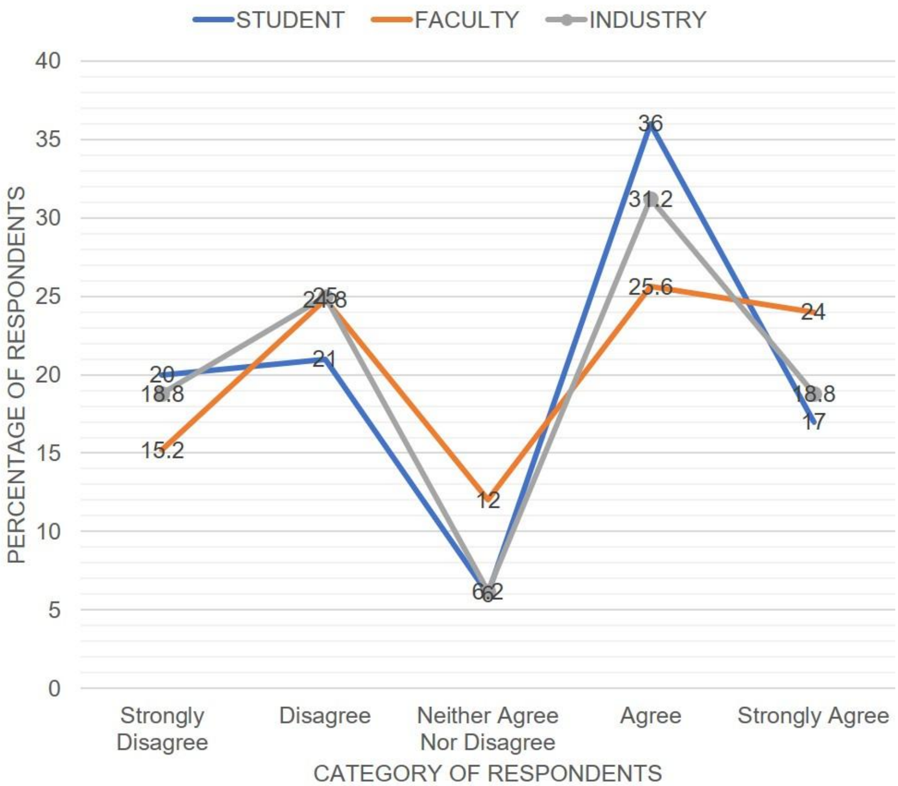



**Table 4.201**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 20.0 | 21.0 | 6.0 | 36.0 | 17.0 |
| FACULTY | 15.2 | 24.8 | 12.0 | 25.6 | 24.0 |
| INDUSTRY | 18.8 | 25 | 6.2 | 31.2 | 18.8 |

**Student:** Students doubt that the period is enough.

**Faculty:** Faculty feel more positive to the period.

**Industry:** Industry is cautious about the internship period.

**Inference:** Faculty confidence is not matched by student or industry views.

**E. There is adequate exposure to construction techniques and on-site practices.**

**Figure 4.202**

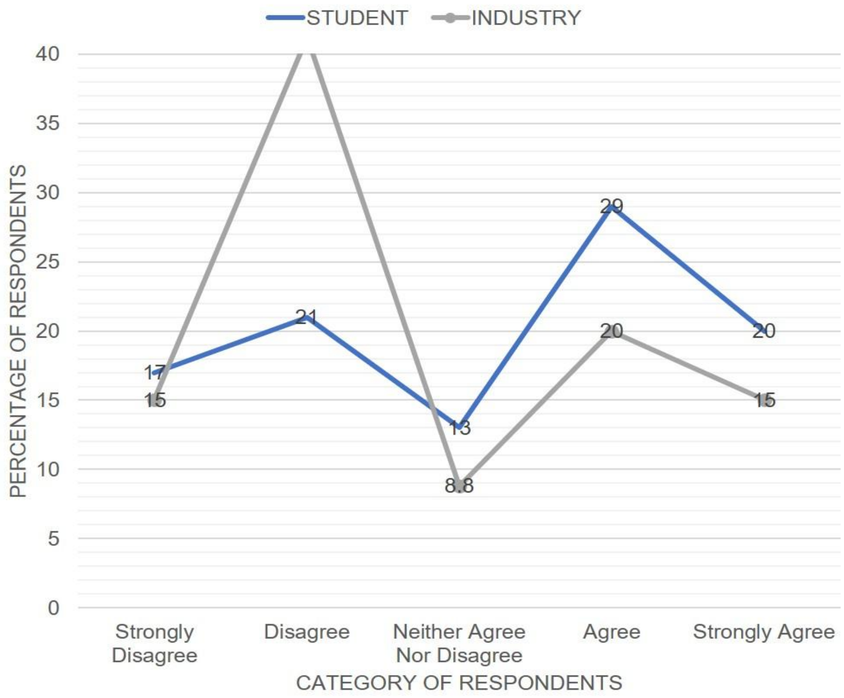



**Table 4.202**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 17.0 | 21.0 | 13.0 | 29.0 | 20.0 |
| INDUSTRY | 15 | 41.2 | 8.8 | 20 | 15 |

**Student:** Students are split on whether exposure is adequate. **Industry:** Industry mostly disagrees that exposure is enough. **Inference:** Regular exposure to site practices are lacking, especially per industry.

**F. Soft skills (communication, teamwork, leadership) are well-developed during studies.**

**Figure 4.203**

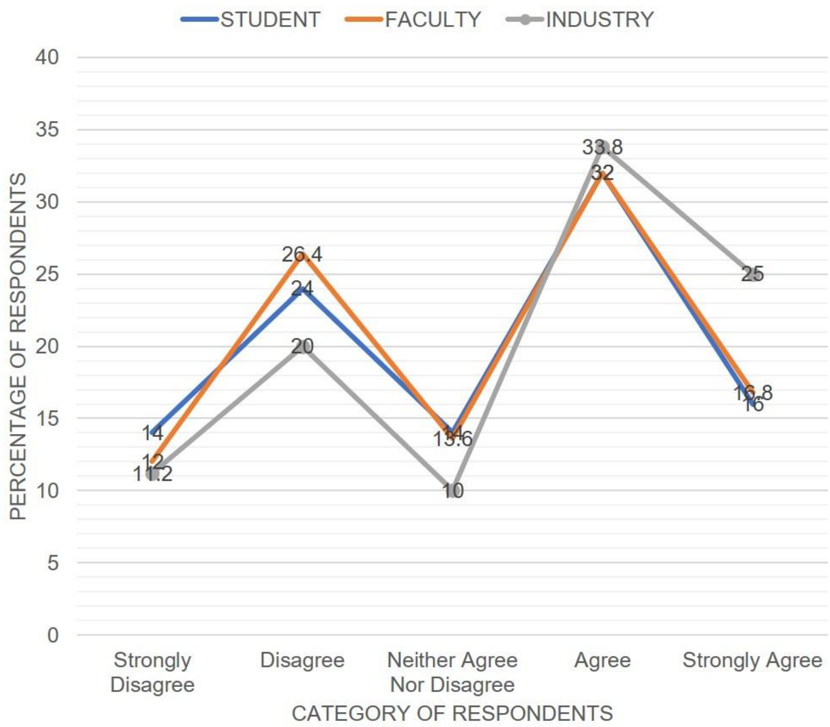



**Table 4.203**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 14.0 | 24.0 | 14.0 | 32.0 | 16.0 |
| FACULTY | 12.0 | 26.4 | 13.6 | 32.0 | 16.8 |
| INDUSTRY | 11.2 | 20 | 10 | 33.8 | 25 |

**Student:** More students agree than disagree that soft skills are developed. **Faculty:** Faculty responses closely mirror students, with more agreement than disagreement.

**Industry:** Industry is more positive, with agreement outweighing disagreement.

**Inference:** All groups generally feel soft skills are developed, with industry being the most positive.

**G. The curriculum prepares students for licensing exams and professional certifications.**

**Fugure 4.204**

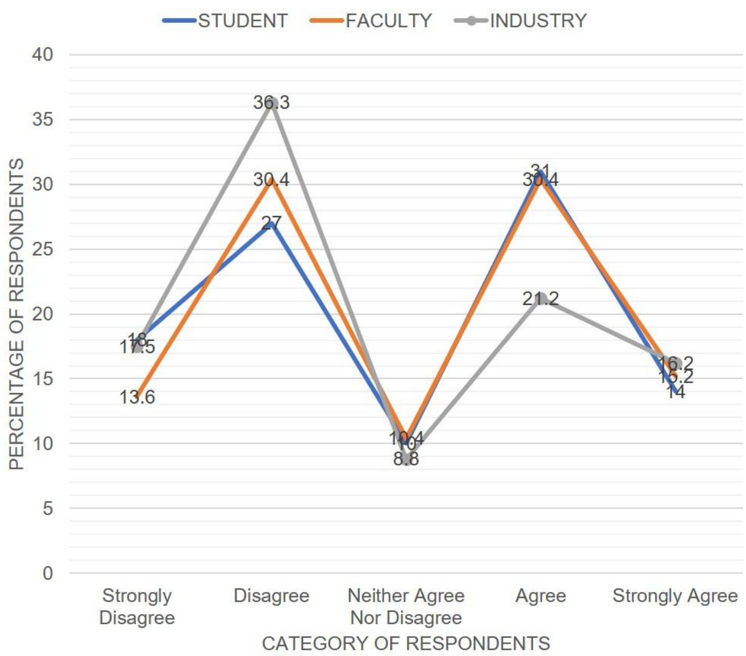



**Table 4.204**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 27.0 | 10.0 | 31.0 | 14.0 |
| FACULTY | 13.6 | 30.4 | 10.4 | 30.4 | 15.2 |
| INDUSTRY | 17.5 | 36.3 | 8.8 | 21.2 | 16.2 |

**Student:** Students are divided, with many feeling unprepared and others feeling ready.

**Faculty:** Faculty are also split, with no clear majority for or against.

**Industry:** Industry is more negative, with more feeling students are not well-prepared.

**Inference:** Most respondents feel the curriculum does not adequately prepare students for licensing and certification.

**H. Entrepreneurial and independent thinking skills are encouraged.**

**Figure 4.205**

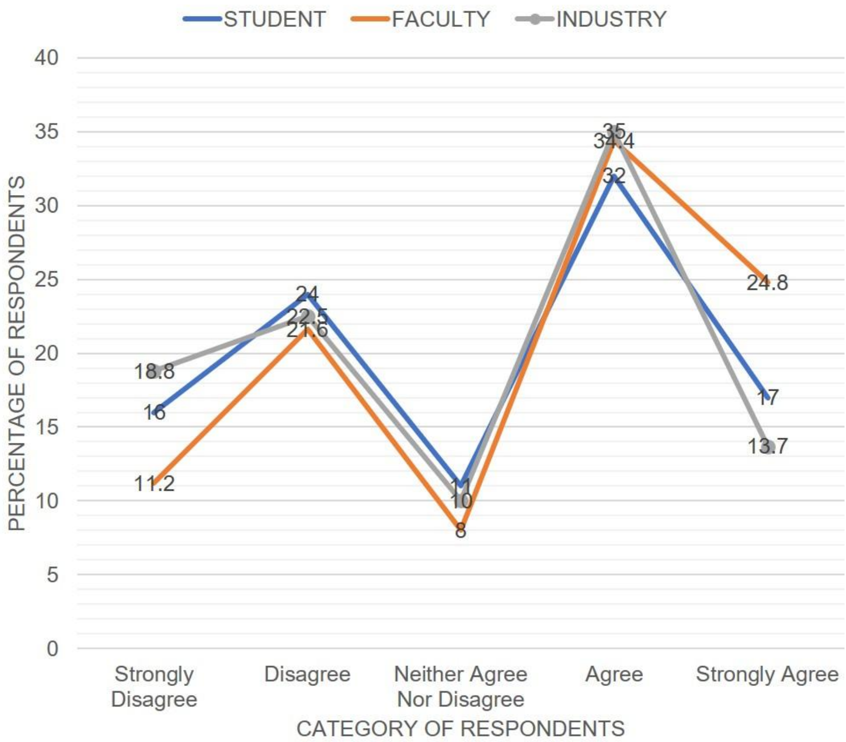



**Table 4.205**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 16.0 | 24.0 | 11.0 | 32.0 | 17.0 |
| FACULTY | 11.2 | 21.6 | 8.0 | 34.4 | 24.8 |
| INDUSTRY | 18.8 | 22.5 | 10 | 35 | 13.7 |

**Student:** Students are divided; some feel encouraged, others do not.

**Faculty:** Faculty are more positive, but a notable portion still disagrees.

**Industry:** Industry is also divided, with nearly equal agreement and disagreement**.**

**Inference:** Encouragement for entrepreneurial and independent thinking is inconsistent across all groups.

**I. The design studio methodology effectively fosters creativity and problem-solving.**

**Figure 4.206**

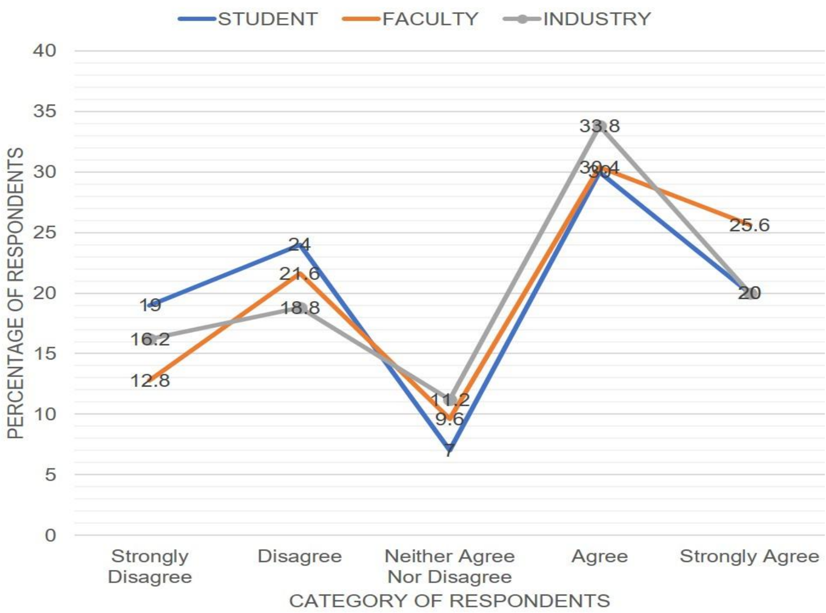



**Table 4.206**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 19.0 | 24.0 | 7.0 | 30.0 | 20.0 |
| FACULTY | 12.8 | 21.6 | 9.6 | 30.4 | 25.6 |
| INDUSTRY | 16.2 | 18.8 | 11.2 | 33.8 | 20 |

**Student:** Students are divided; some see the benefit, others do not.

**Faculty:** Faculty are more positive, but a significant number are unsure or disagree.

**Industry:** Industry is also more positive, with agreement outweighing disagreement.

**Inference:** Faculty and industry see the design studio as effective, while students are split.

**J. The assessment system effectively evaluates both technical and creative skills.**

**Figure 4.207**

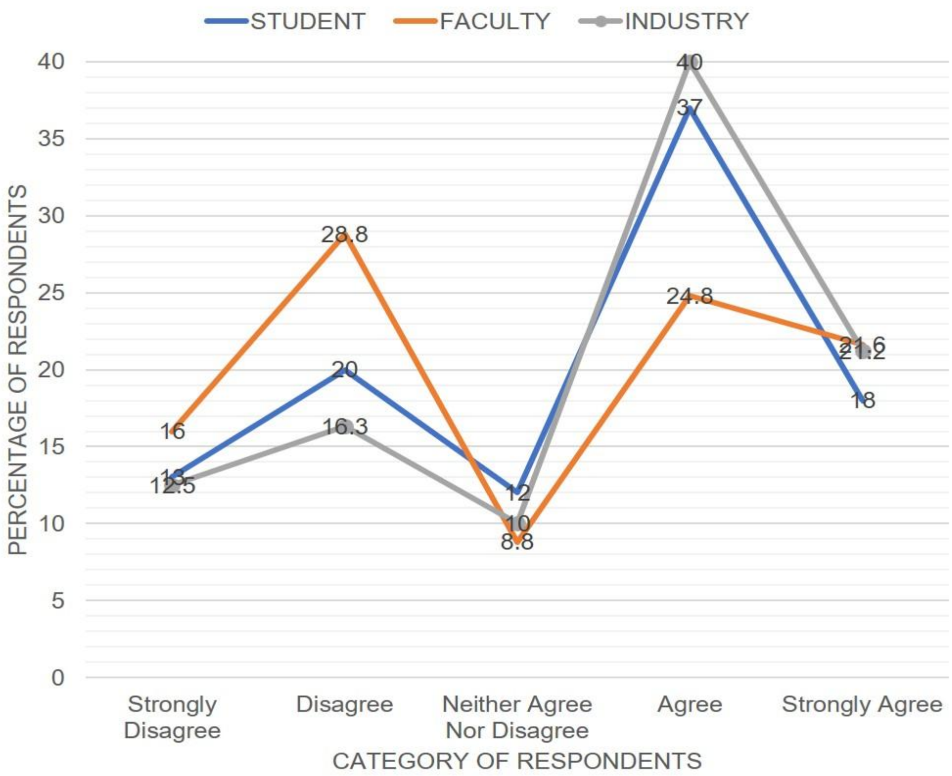



**Table 4.207**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 13.0 | 20.0 | 12.0 | 37.0 | 18.0 |
| FACULTY | 16.0 | 28.8 | 8.8 | 24.8 | 21.6 |
| INDUSTRY | 12.5 | 16.3 | 10 | 40 | 21.2 |

**Student:** Students are divided, with some finding the assessments effective and others not.

**Faculty:** Faculty are also split, with no clear majority.

**Industry:** Industry is somewhat more positive, but many are still unconvinced.

**Inference:** Students and industry see the assessment system as effective, but faculty are divided.

### 4.5.4 Challenges in Adopting Modern Technologies in Architectural Education

**A.The curriculum provides adequate training in emerging tools like BIM, AI, and computational design.**

**Figure 4.208**

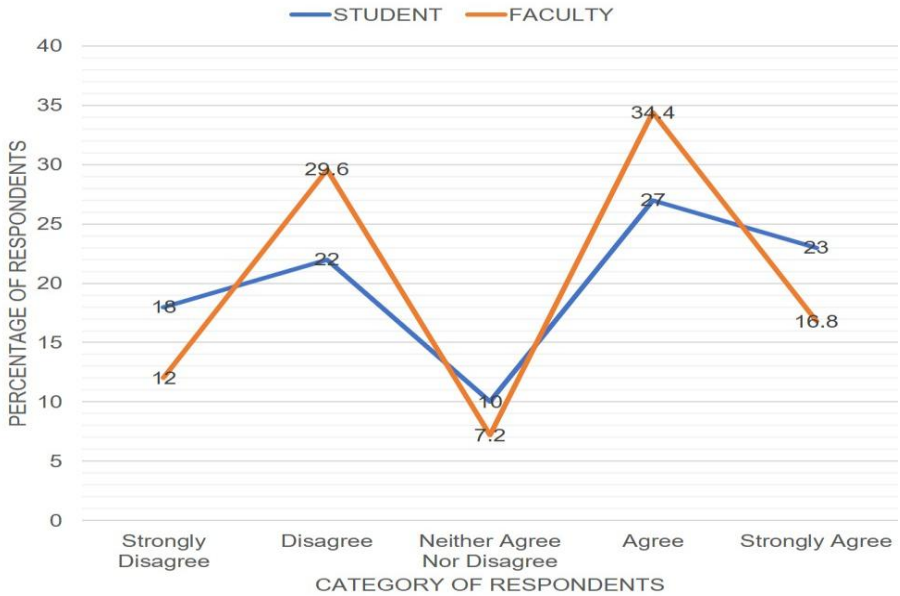



**Table 4.208**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 22.0 | 10.0 | 27.0 | 23.0 |
| FACULTY | 12.0 | 29.6 | 7.2 | 34.4 | 16.8 |

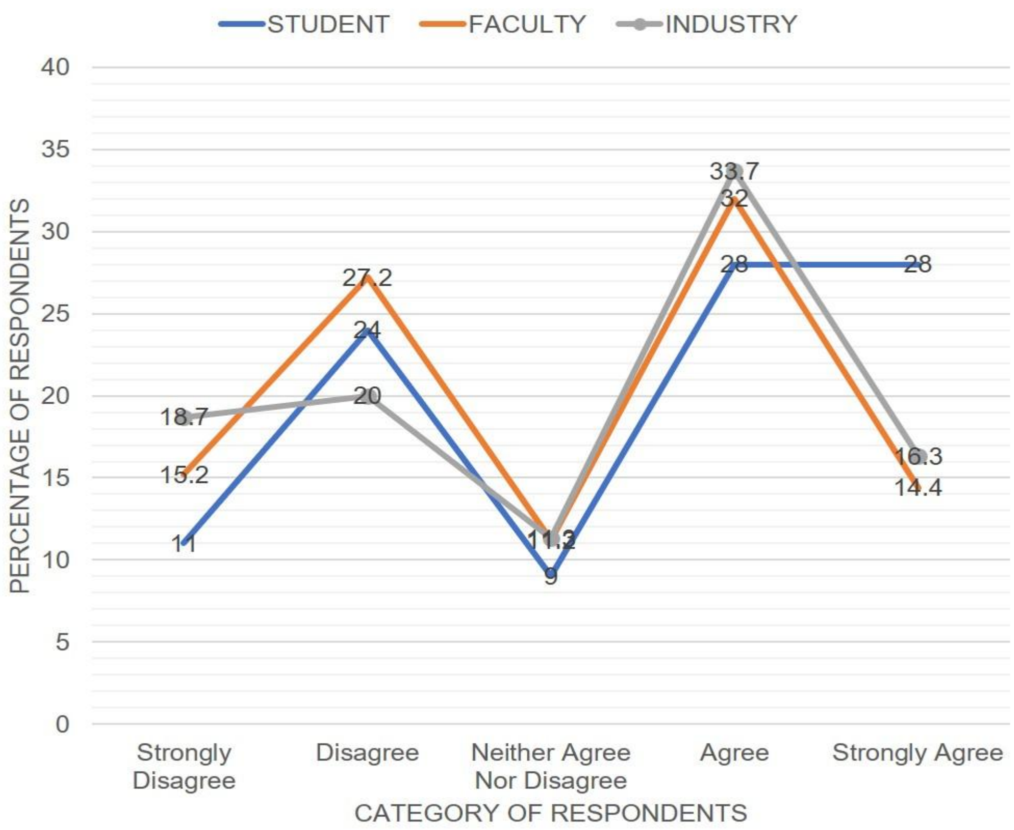
**Student:** Students are divided on training adequacy.

**Faculty:** Faculty are also split, with no clear consensus

.**Inference:** Both groups see training as only partly adequate.

**B. Institutions offer sufficient resources (software, labs, hardware) for learning modern technologies.**

**Figure 4.209**




**Tab;e 4.209**

| Category | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 11.0 | 24.0 | 9.0 | 28.0 | 28.0 |
| FACULTY | 15.2 | 27.2 | 11.2 | 32.0 | 14.4 |
| INDUSTRY | 18.7 | 20 | 11.3 | 33.7 | 16.3 |

**Student:** Students are mostly positive about resources.

**Faculty:** Faculty are split on resource sufficiency.

**Industry:** Industry is mixed, with some positivity but many see gaps.

**Inference:** Students are more positive than faculty or industry about resources.

**C. There is a gap between academic training and industry requirements for digital tools.**

**Figure 4.210**

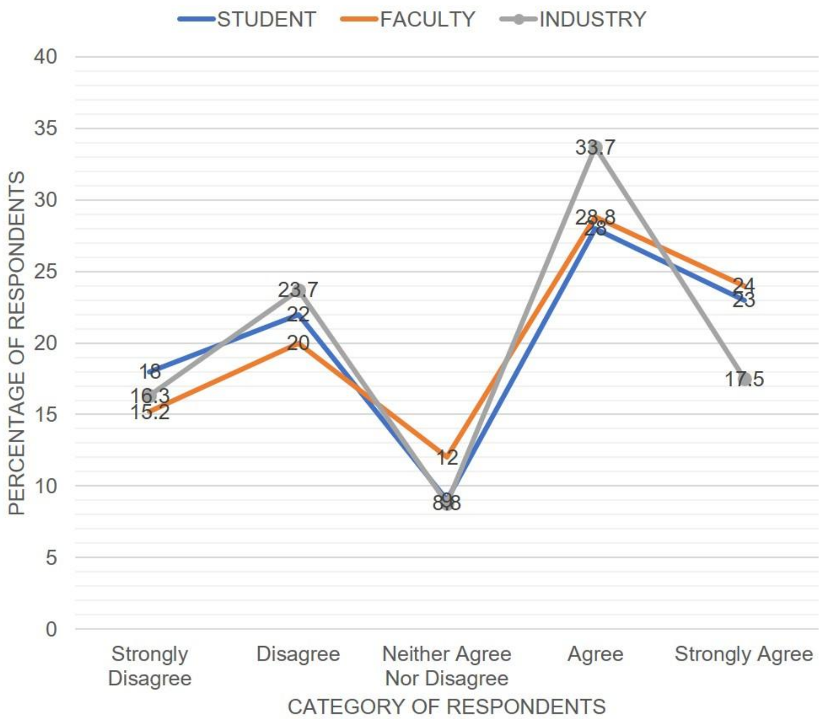



**Table 4.210**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 22.0 | 9.0 | 28.0 | 23.0 |
| FACULTY | 15.2 | 20.0 | 12.0 | 28.8 | 24.0 |
| INDUSTRY | 16.3 | 23.7 | 8.8 | 33.7 | 17.5 |

**Student:** Most students agree there is a gap.

**Faculty:** Faculty also see a clear gap.

**Industry:** Industry agrees there is a gap with academic training.

**Inference:** All groups see a gap between academics and industry needs.

**D. Faculty members are well-equipped to teach digital and computational design tools.**

**Figure 4.211**

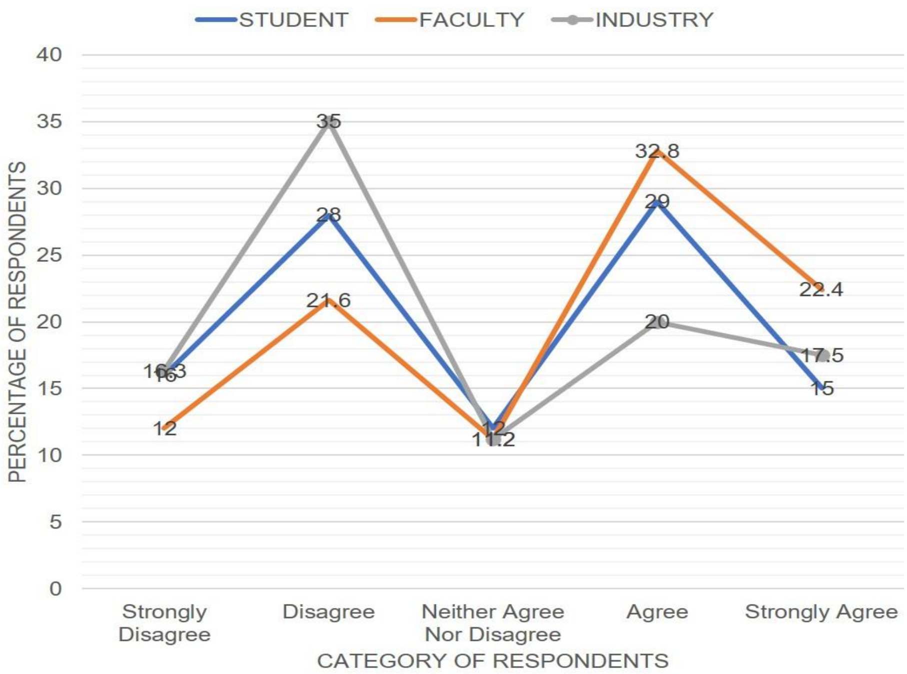



**Table 4.211**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 16.0 | 28.0 | 12.0 | 29.0 | 15.0 |
| FACULTY | 12.0 | 21.6 | 11.2 | 32.8 | 22.4 |
| INDUSTRY | 16.3 | 35 | 11.2 | 20 | 17.5 |

**Student:** Students are critical of faculty preparedness.

**Faculty:** Faculty feel more confident about their readiness.

**Industry:** The industry is mostly negative about faculty preparedness.

**Inference:** Faculty think they are ready, but others disagree.

**E. There are regular industry collaborations for training on new technologies.**

**Figure 4.212**

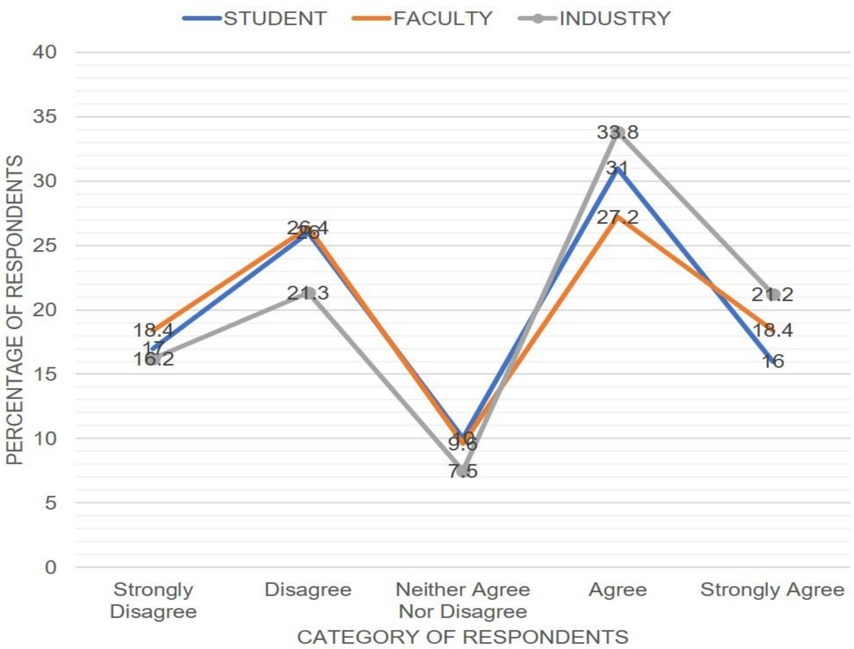



**Table 4.212**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 17.0 | 26.0 | 10.0 | 31.0 | 16.0 |
| FACULTY | 18.4 | 26.4 | 9.6 | 27.2 | 18.4 |
| INDUSTRY | 16.2 | 21.3 | 7.5 | 33.8 | 21.2 |

**Student:** Students are moderately positive about collaborations.

**Faculty:** Faculty are split on the frequency of collaborations.

**Industry:** Industry is slightly more positive but many still see issues.

**Inference:** Collaborations exist but are not widespread or regular.

**F. Budget constraints limit access to advanced architectural software.**

**Figure 4.213**

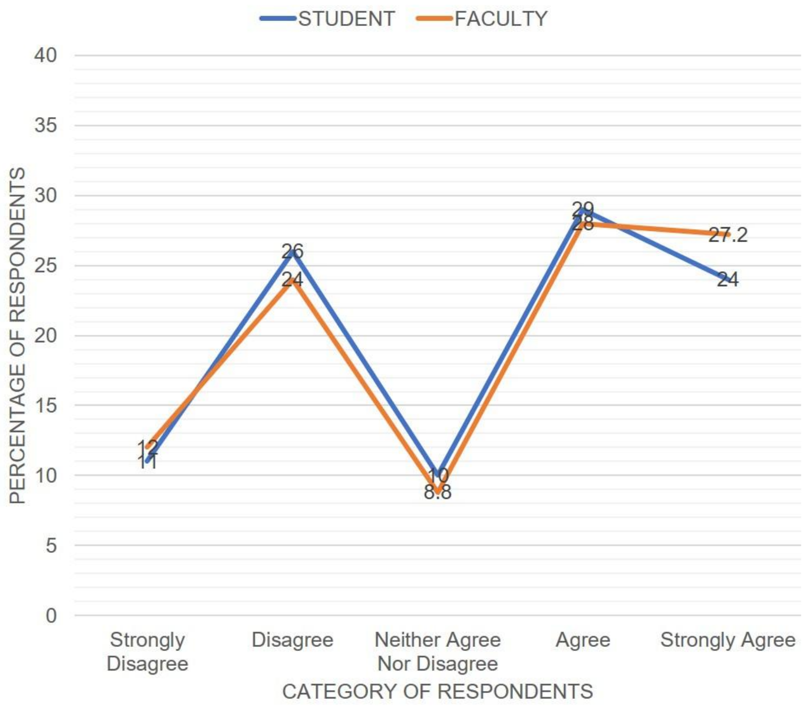



**Table 4.213**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 11.0 | 26.0 | 10.0 | 29.0 | 24.0 |
| FACULTY | 12.0 | 24.0 | 8.8 | 28.0 | 27.2 |

**Student:** Students are divided

**Faculty:** Faculty are also split, with no clear consensus.

**Inference:** Both students and faculty are split on whether budget constraints are a major barrier.

**G. VR, AR, and AI applications in architecture are actively introduced in coursework.**

**Figure 4.214**

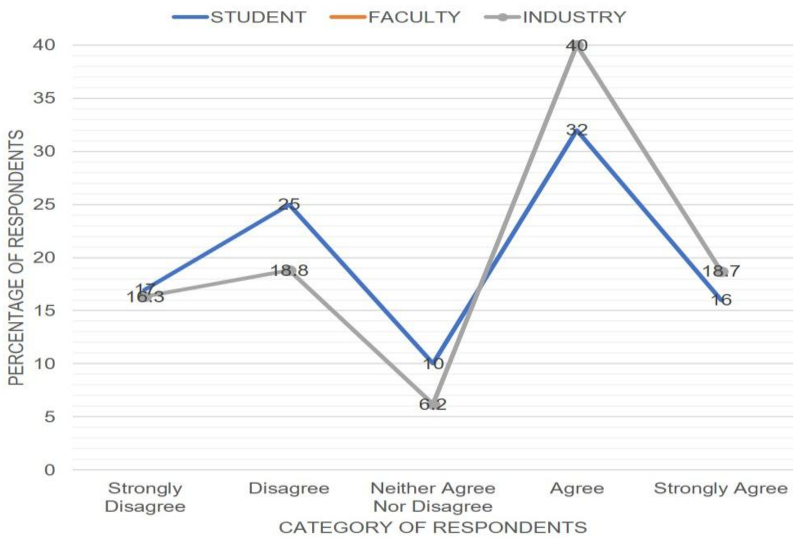



**Table 4.214**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 20.0 | 26.0 | 10.0 | 34.0 | 10.0 |
| FACULTY | 24.0 | 22.4 | 11.2 | 24.0 | 20.0 |
| INDUSTRY | 12.5 | 21.2 | 8.8 | 41.2 | 16.3 |

**Student**: More students disagree than agree that these technologies are actively introduced.

**Faculty**: Faculty are divided

**Industry:** Industry is more positive, with agreement outweighing disagreement.

**Inference**: Industry sees progress, faculty are split, and students are more negative about technology integration.

**H. Advanced technology-based learning (robotic fabrication, parametric design) is accessible.**

**Figure 4.215**

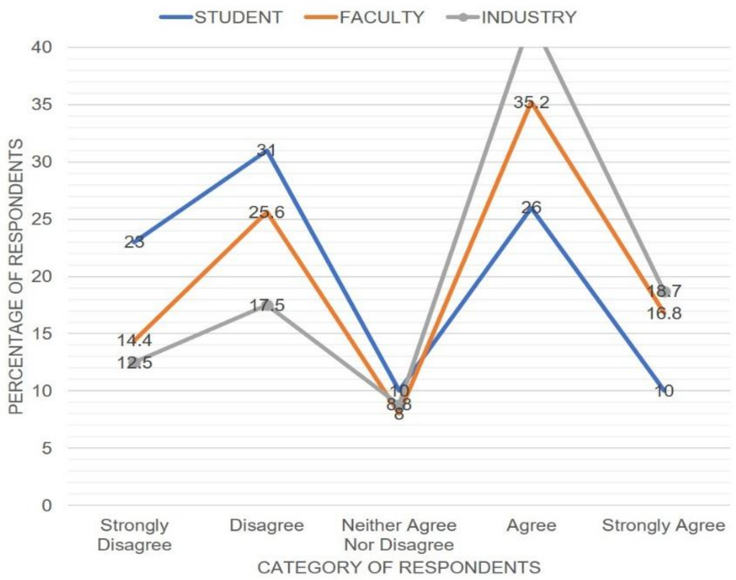



**Table 4.215**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 23.0 | 31.0 | 10.0 | 26.0 | 10.0 |
| FACULTY | 14.4 | 25.6 | 8.0 | 35.2 | 16.8 |
| INDUSTRY | 12.5 | 17.5 | 8.8 | 42.5 | 18.7 |

**Student:** More students disagree than agree that they face challenges adapting to digital trends.

.**Faculty:** Faculty are divided

**Industry:** Industry is more positive, with agreement outweighing disagreement..

**Inference:** Industry sees students as challenged, faculty are split, and students themselves are more confident.

**I. Students face challenges in adapting to rapidly evolving digital trends in architecture.**

**Figure 4.216**

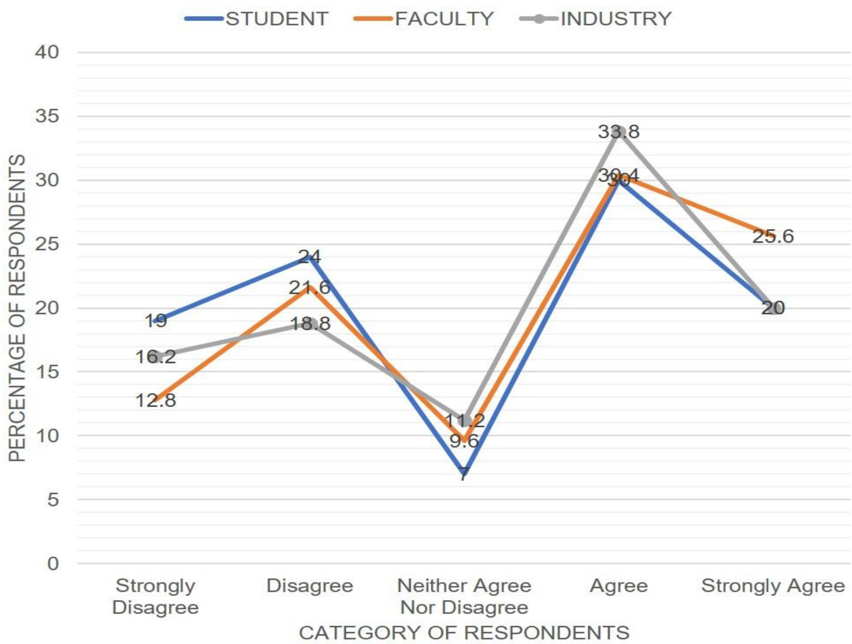



**Table 4.216**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 11.0 | 23.0 | 9.0 | 34.0 | 23.0 |
| FACULTY | 13.6 | 26.4 | 15.2 | 27.2 | 17.6 |
| INDUSTRY | 12.5 | 20 | 7.5 | 37.5 | 22.5 |

**Student:** More students agree than disagree that faculty are well-equipped.

**Faculty:** Faculty feel divided

**Industry:** Industry is more positive, with agreement outweighing disagreement..

**Inference:** Students and industry are generally positive, while faculty are divided on their own preparedness.

**J. Industry collaborations for technological skill development are strong.**

**Figure 4.217**

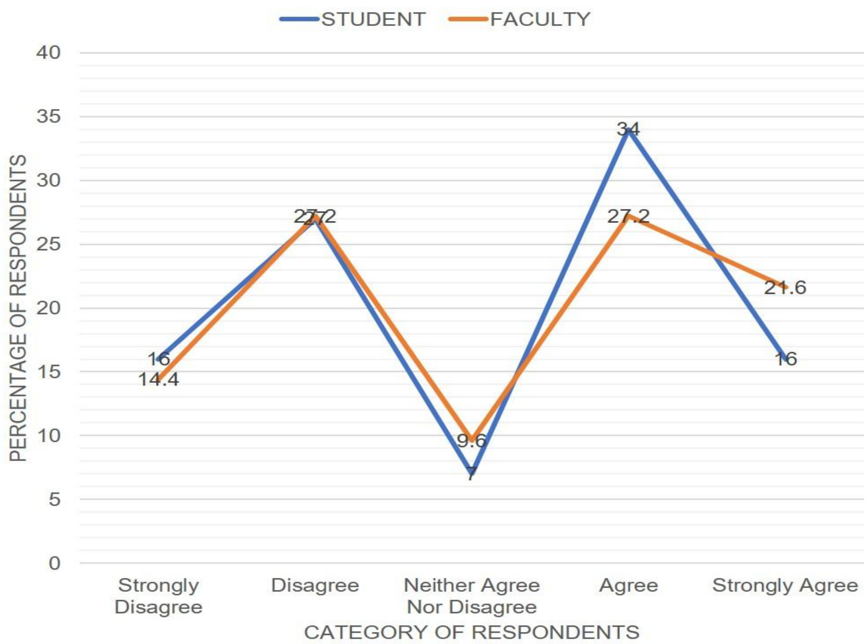



**Table 4.217**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 19.6 | 22.4 | 12.8 | 24.4 | 20.8 |
| FACULTY | 19.6 | 22.4 | 12.8 | 24.4 | 20.8 |
| INDUSTRY | 12.5 | 16.2 | 11.2 | 33.8 | 26.3 |

**Student**: Students are divided.

**Faculty**: Faculty are also split.

**Industry:** Industry is slightly more positive but many still see issues.

**Inference:** Industry sees collaborations as strong, while students and faculty are split.

### 4.5.5 Role of NEP 2020 in Curriculum Restructuring

**A. NEP 2020 would positively influence the restructuring of the architecture curriculum.**

**Table 4.218**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 17.0 | 25.0 | 10.0 | 32.0 | 16.0 |
| INDUSTRY | 16.3 | 18.8 | 6.2 | 40 | 18.7 |

**Student:** Students are split; some see a positive impact, others do not.

**Industry:** Industry is moderately positive but not unanimous.

**Inference:** NEP 2020's impact is seen as somewhat positive, but not by all.

**B. The emphasis on skill-based education under NEP 2020 would benefit architecture students.**

**Figure 4.218**

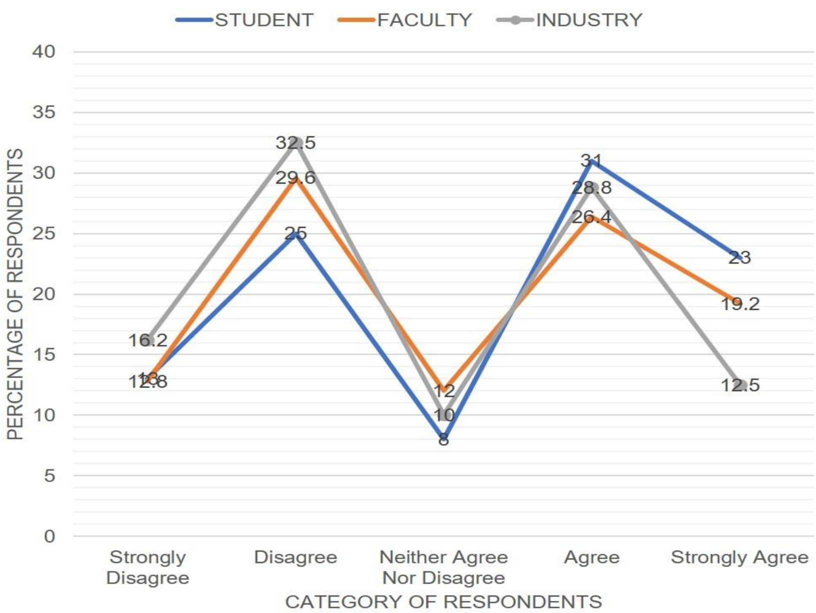


**Table 4.219**

| Category | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 13.0 | 25.0 | 8.0 | 31.0 | 23.0 |
| FACULTY | 12.8 | 29.6 | 12.0 | 26.4 | 19.2 |
| INDUSTRY | 16.2 | 32.5 | 10 | 28.8 | 12.5 |

**Student:** Most students see benefits from skill-based education.

**Faculty:** Faculty are divided on the benefits.

**Industry:** Industry is less convinced of the benefits.

**Inference:** Students are most positive, but faculty and industry are less so.

**C. NEP 2020 would promote better collaboration between academia and industry professionals.**

**Figure 4.219**

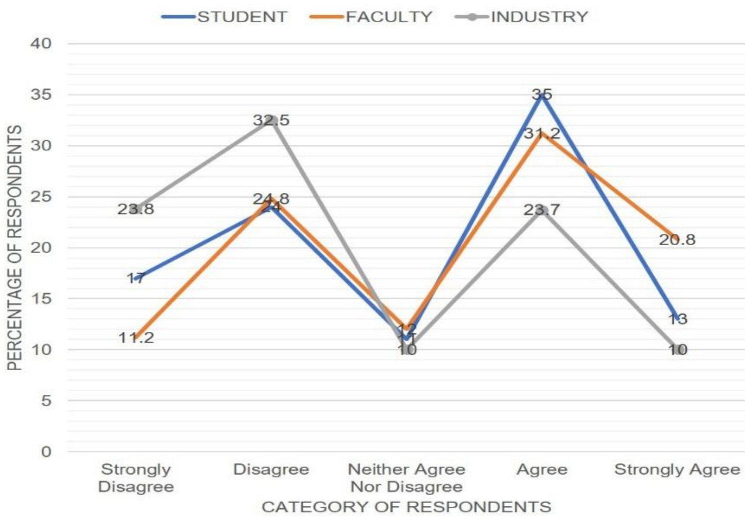



**Table 4.220**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 17.0 | 24.0 | 11.0 | 35.0 | 13.0 |
| FACULTY | 11.2 | 24.8 | 12.0 | 31.2 | 20.8 |
| INDUSTRY | 23.8 | 32.5 | 10 | 23.7 | 10 |

**Student:** Students are moderately positive about collaboration.

**Faculty:** Faculty are also moderately positive.

**Industry:** Industry is mostly negative about improved collaboration.

**Inference:** Academia sees some improvement, but industry does not.

**D. The reforms would encourage research and innovation in architectural studies.**

**Figure 4.220**

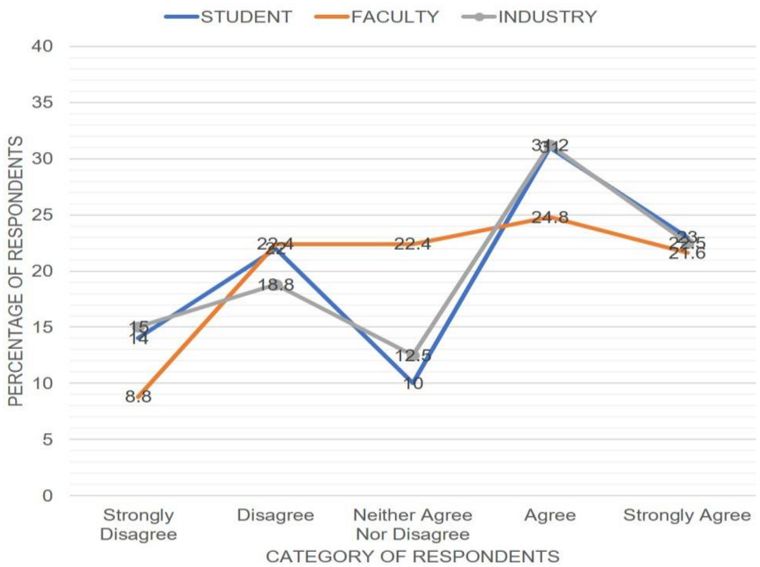



**Table 4.221**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 14.0 | 22.0 | 10.0 | 31.0 | 23.0 |
| FACULTY | 8.8 | 22.4 | 22.4 | 24.8 | 21.6 |
| INDUSTRY | 15 | 18.8 | 12.5 | 31.2 | 22.5 |

**Student:** Most students agree reforms help research and innovation.

**Faculty:** Faculty are generally positive but some are neutral.

**Industry:** Industry is positive about encouragement of research.

**Inference:** All groups agree reforms support research and innovation.

**E. The revised curriculum would integrate global best practices in architectural education.**

**Figure 4.221**

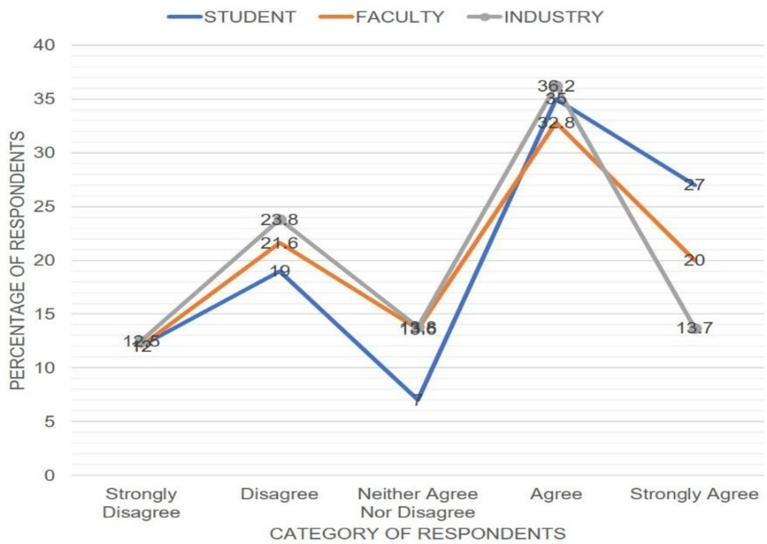



**Table 4.222**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 12.0 | 19.0 | 7.0 | 35.0 | 27.0 |
| FACULTY | 12.0 | 21.6 | 13.6 | 32.8 | 20.0 |
| INDUSTRY | 12.5 | 23.8 | 13.8 | 36.2 | 13.7 |

**Student:** Students are optimistic about global practices integration.

**Faculty:** Faculty are positive but less so than students.

**Industry:** Industry is mixed, with some positivity but many unconvinced.

**Inference:** Students are most positive about global integration; others are less certain.

**F. Students would be given more opportunities for internships and industry exposure due to NEP 2020.**

**Figure 4.222**

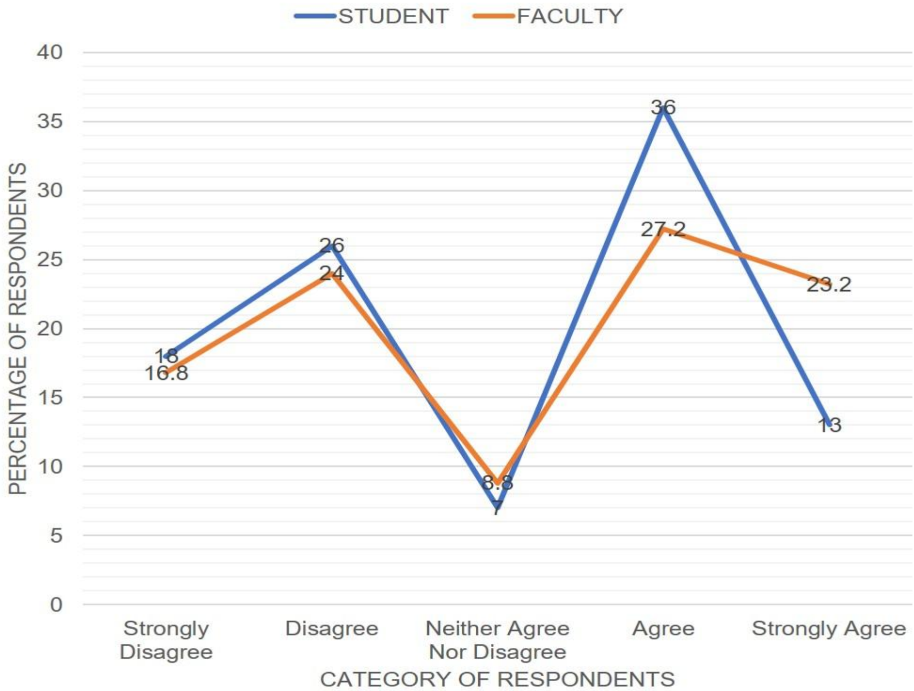



**Table 4.223**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 18.0 | 26.0 | 7.0 | 36.0 | 13.0 |
| FACULTY | 16.8 | 24.0 | 8.8 | 27.2 | 23.2 |

**Student:** More students agree than disagree that NEP 2020 has increased opportunities.

**Faculty:** Faculty are also more positive, with agreement outweighing disagreement.

**Inference:** Both students and faculty see improvement in the balance between theory and practice.

**G. The policy would promote an improved balance between theoretical and practical learning.**

**Figure 4.223**

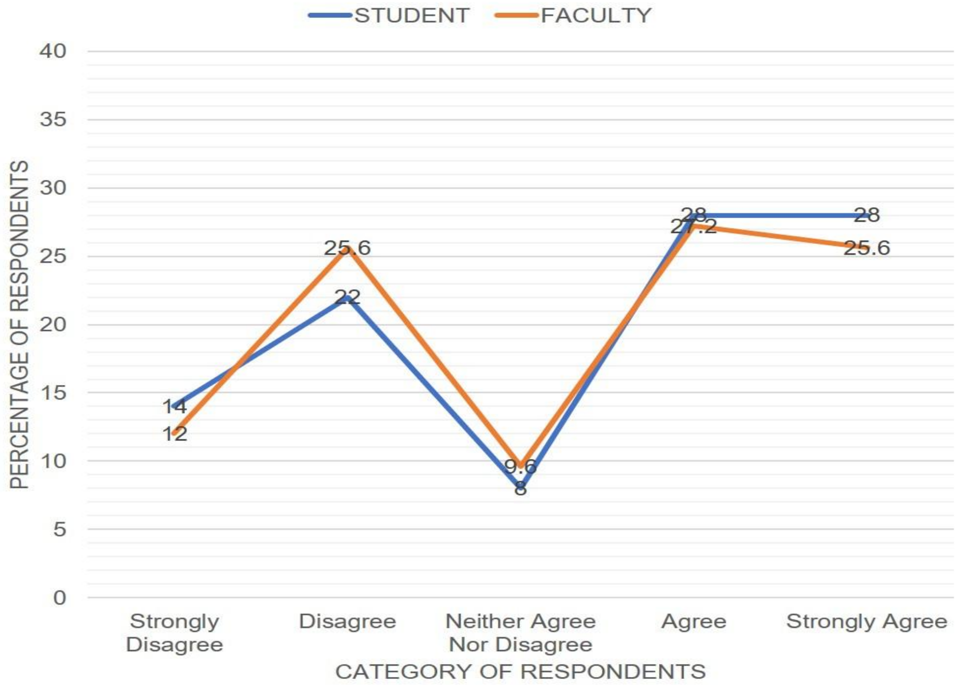



**Table 4.224**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 14.0 | 22.0 | 8.0 | 28.0 | 28.0 |
| FACULTY | 12.0 | 25.6 | 9.6 | 27.2 | 25.6 |

**Student:** More students agree than disagree that the policy improves the balance.

**Faculty:** Faculty are also more positive, with agreement outweighing disagreement.

**Inference:** Both students and faculty see improvement in the balance between theory and practice.

**H. NEP 2020 would successfully address major challenges in architecture education.**

**Figure 4.224**

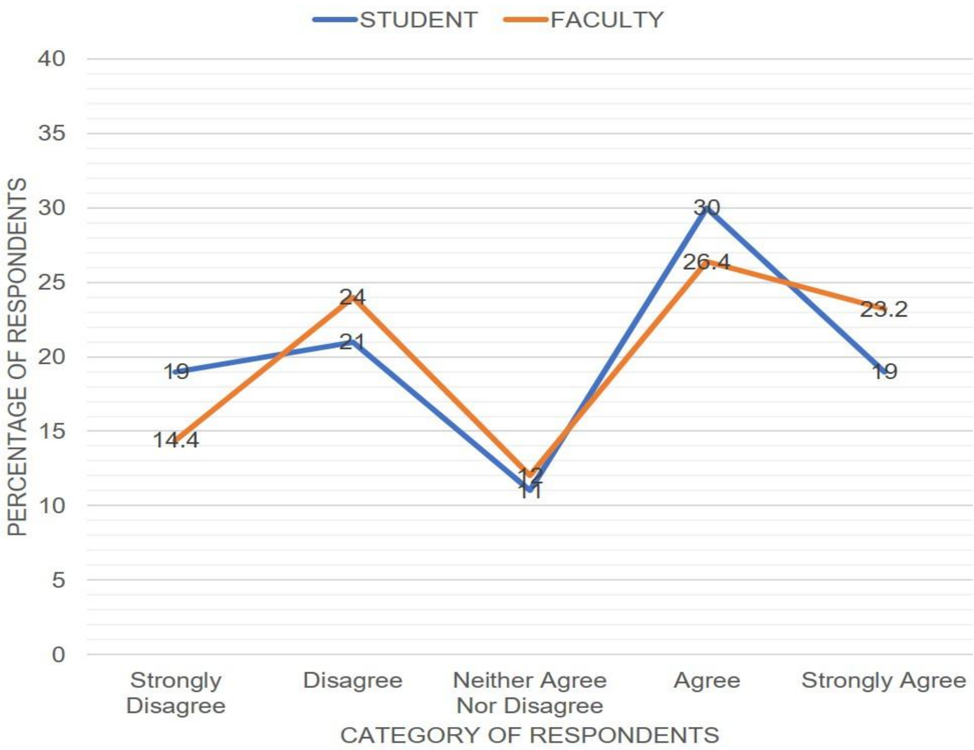



**Table 4.225**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 19.0 | 21.0 | 11.0 | 30.0 | 19.0 |
| FACULTY | 14.4 | 24 | 12 | 26.4 | 23.2 |

**Student:** Students are divided.

**Faculty:** Faculty are also divided.

**Inference:** Both students and faculty are split on whether NEP 2020 has addressed major challenges.

**I. The policy would leed to increased flexibility in course selection and elective subjects.**

**Figure 4.225**

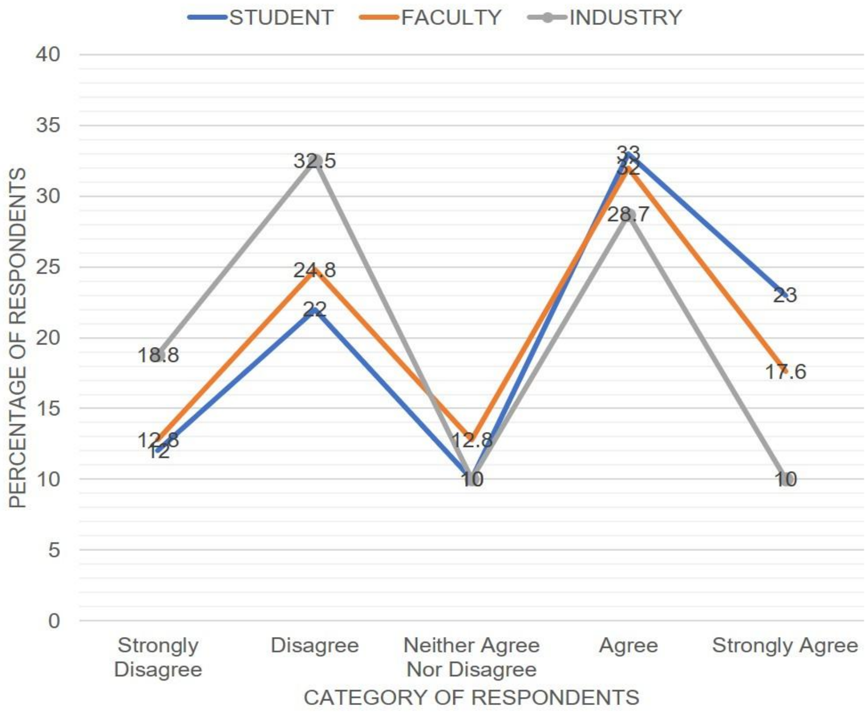



**Table 4.226**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 12.0 | 22.0 | 10.0 | 33.0 | 23.0 |
| FACULTY | 12.8 | 24.8 | 12.8 | 32.0 | 17.6 |
| INDUSTRY | 18.8 | 32.5 | 10 | 28.7 | 10 |

**Student:** More students agree than disagree that flexibility has increased.

**Faculty:** Faculty are also more positive, with agreement outweighing disagreement.

**Industry:** Industry is more negative, with disagreement outweighing agreement..

**Inference:** Students and faculty see increased flexibility, but industry does not.

**J. Interdisciplinary learning, as promoted by NEP 2020, would enhance architectural education.**

**Figure 4.226**

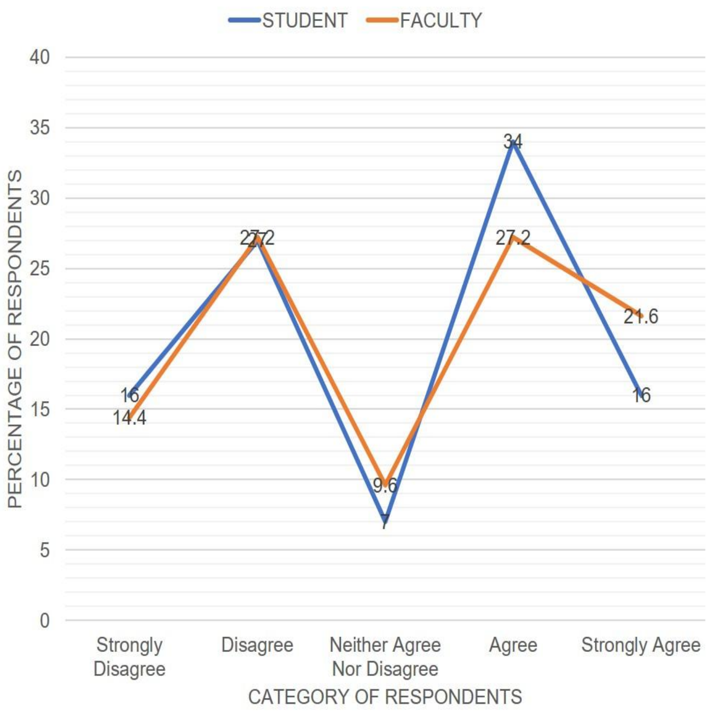



**Table 4.227**

| Category | Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| STUDENT | 16.0 | 27.0 | 7.0 | 34.0 | 16.0 |
| FACULTY | 14.4 | 27.2 | 9.6 | 27.2 | 21.6 |

**Student:** More students disagree than agree that interdisciplinary learning enhances education.

**Faculty:** Faculty are also more negative, with disagreement outweighing agreement.

**Inference:** Both students and faculty are skeptical about the enhancement from interdisciplinary learning under NEP 2020.

**4.6 Synthesis of Primary Data w.r.t. Five Hypothesis Parameters:**

The graphical method is employed for synthesis of survey data of all stake holders with reference to hypothesis parameters.

**4.6.1 Alignment of Curriculum with Industry Needs**

**Figure 4.227**

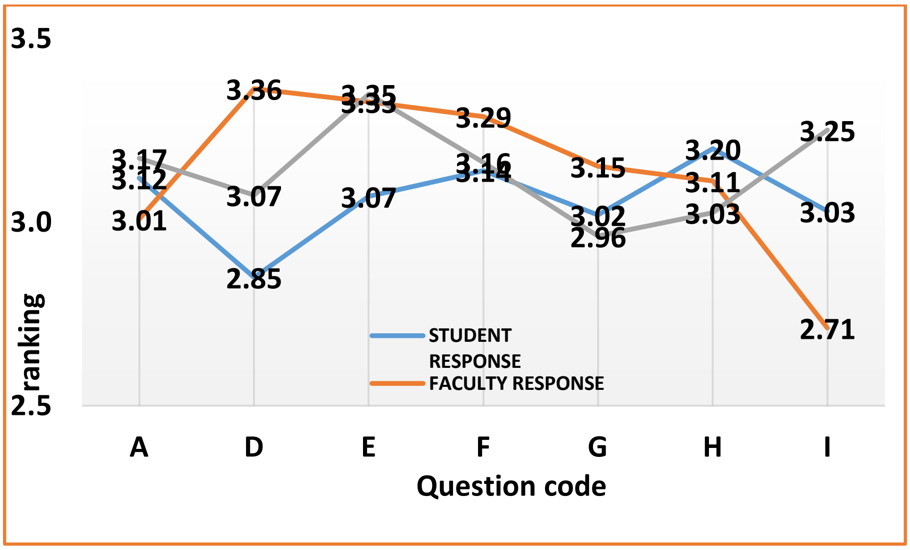



**Table 4.228**

| | |
|---|---|
| A | Fresh architecture graduates possess the necessary technical skills required for industry roles. |
| A | Architectural education aligns well with current industry demands and professional challenges. |
| D | The curriculum provides adequate training in sustainable architecture and green building practices. |
| D | The syllabus includes contemporary topics such as smart cities, parametric design, and computational architecture. |
| E | There is disconnect between theoretical knowledge and real-world applications in architectural education. |
| F | The current curriculum adequately covers practical aspects like site planning, construction techniques, and material selection. |
| G | Institutions regularly engage with industry professionals to update the curriculum. |
| H | Students have sufficient exposure to real-world projects during their academic training. |
| I | The curriculum is regularly updated to meet Industry demands |

Faculty mostly believe the curriculum is moderately aligned, with some suggesting it needs improvement.

Students feel a stronger gap exists, indicating dissatisfaction with how well the curriculum prepares them for industry.

Industry professionals largely agree that the curriculum lacks alignment with current needs and practices.

**Inference:**

**There is a consensus, particularly from students and industry, that the curriculum needs significant updating to better match real-world requirements.**

### 4.6.2 Impact of Curriculum Rigidity on Adaptability to Trends

**Figure 4.228**

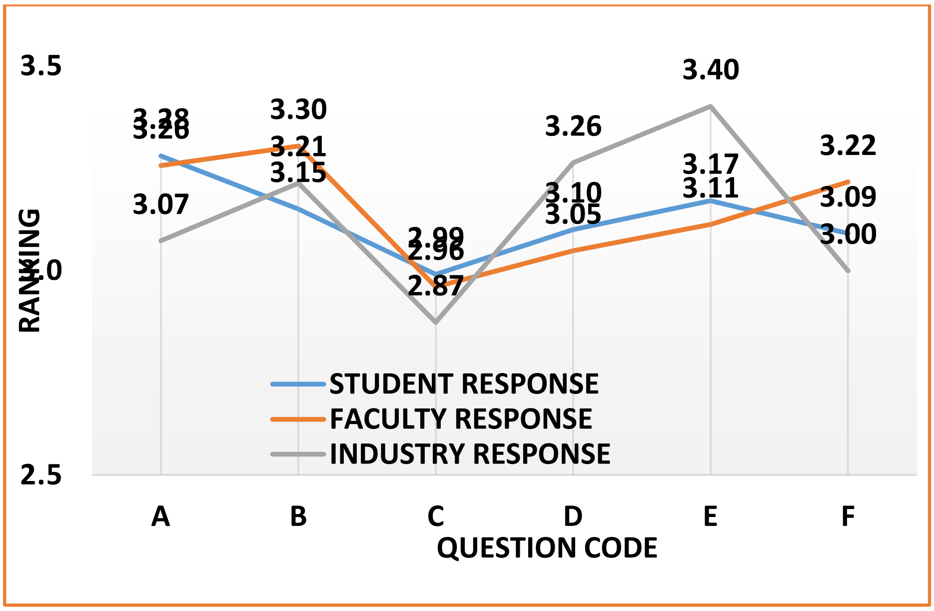


**Table 4.229**

| | |
|---|---|
| A | The current architecture curriculum allows for adequate flexibility to adapt to industry advancements. |
| B | The rigid structure of the curriculum limits creative and experimental approaches in design studios. |
| C | Graduates find it easy to transition into new and emerging fields in architecture. |
| D | The curriculum promotes innovation and adaptability in design thinking. |
| E | Students are encouraged to explore emerging trends like AI-driven design, generative architecture, and digital fabrication. |
| F | International trends in architecture education are sufficiently incorporated into the curriculum. |

Faculty acknowledge that right curricula hinder adaptability but seem divided on its severity.

Students overwhelmingly feel that rigidity limits their ability to learn new and trending skills.

Industry professionals stress that flexibility is crucial and current rigidity prevents quick adaptation.

**Inference:**

**All groups recognize that a rigid curriculum restricts responsiveness to emerging trends with students and industry calling for more flexibility.**

### 4.6.3 Effectiveness of Practical Training and Skill Development

**Figure 4.229**

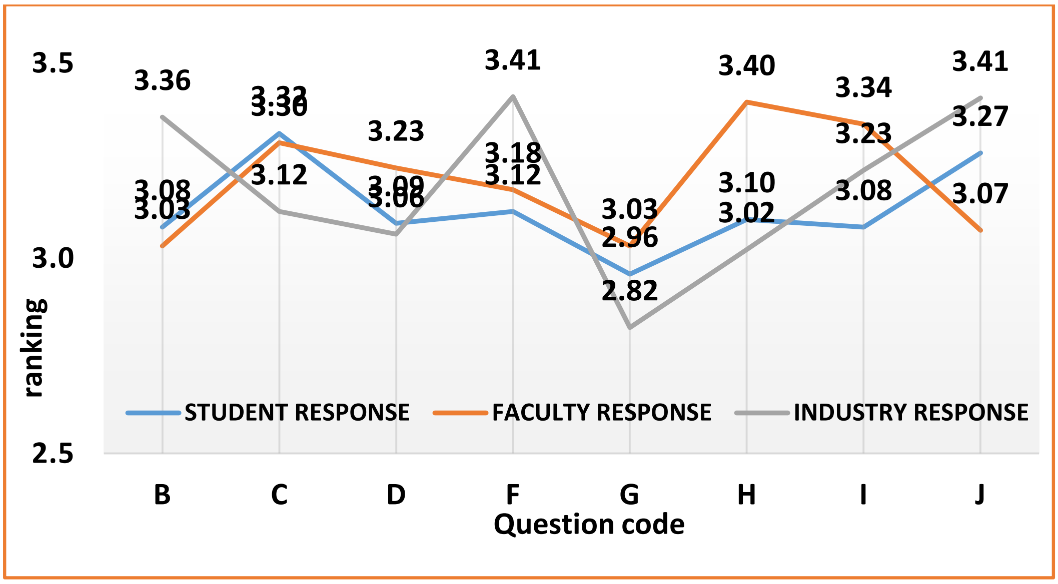



**Table 4.230**

| | |
|---|---|
| B | Architectural graduates are proficient in the use of digital tools such as AutoCAD, Revit, Rhino, and BIM software. |
| D | Internships provide students with sufficient practical exposure before they enter the workforce. |
| D | The internship duration in architecture education is adequate for industry preparedness. |
| E | Students are well-trained in construction project management and coordination. |
| F | The curriculum sufficiently emphasizes soft skills like client communication, negotiation, and leadership. |
| F | There is adequate emphasis on teamwork and collaboration in architectural education. |
| G | Fresh graduates are equipped to handle regulatory and legal aspects of architectural practice. |
| H | Entrepreneurial opportunities and independent practice are well-supported by the curriculum. |
| I | Design studios encourage students to explore innovative and experimental design solutions. |
| J | The current evaluation system effectively measures both technical expertise and creative problem-solving abilities. |

Faculty generally rate current practical training as fairly effective but acknowledge room for enhancement.

Students are less satisfied, suggesting practical exposure is insufficient or poorly integrated. Industry professionals' express concerns about graduates lacking hands-on experience and practical skills.

**Inference:**

**There's a clear need to strengthen practical training components, especially as perceived by students and industry stakeholders.**

### 4.6.4 Challenges in Adopting Modern Technologies in Architectural Education

**Figure 4.230**

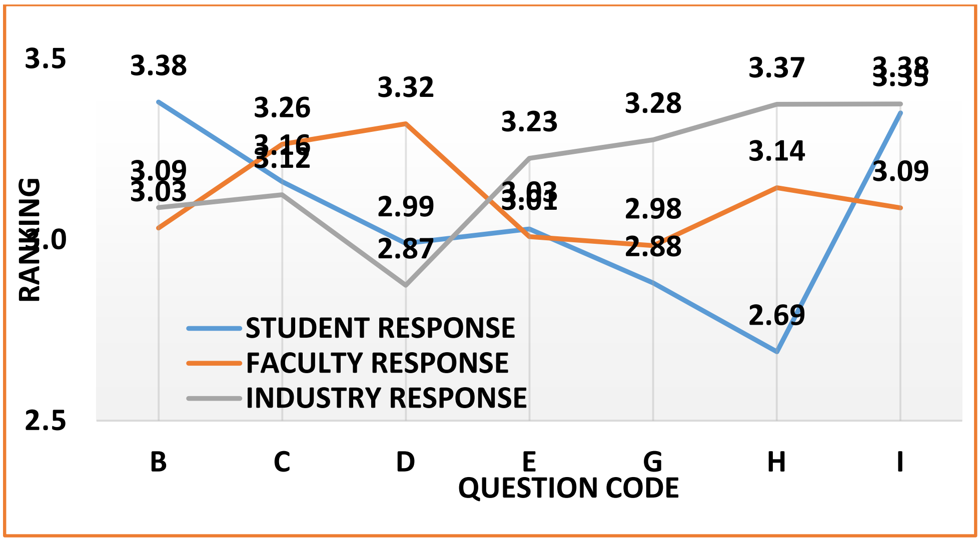


**Table 4.231**

| | |
|---|---|
| B | Academic institutions provide sufficient resources (software, labs, workshops) for digital training. |
| C | There is a gap between the digital skills required in the industry and what is taught in architecture programs. |
| D | Faculty members are well-equipped to train students in advanced digital tools. |
| E | There is enough emphasis on parametric and computational design in the curriculum. |
| G | Graduates are well-versed in emerging digital technologies such as AI, VR, and AR in architectural design. |
| H | The curriculum prepares students for the increasing role of automation and digital fabrication in architecture. |
| I | The rapid advancement of technology creates a challenge in keeping the curriculum updated. |

Faculty cite infrastructure and training as major barriers to adopting modern tech.

Students report limited access and exposure to current tools and platforms.

Industry is critical of the educational lag in technology adoption, affecting graduate readiness.

**Inference:**

**All parties recognize systemic and infrastructural issues preventing tech integration, with a strong push from the industry for immediate upgrades.**

### 4.6.5 Role of NEP 2020 in Curriculum Restructuring

Figure 4.231

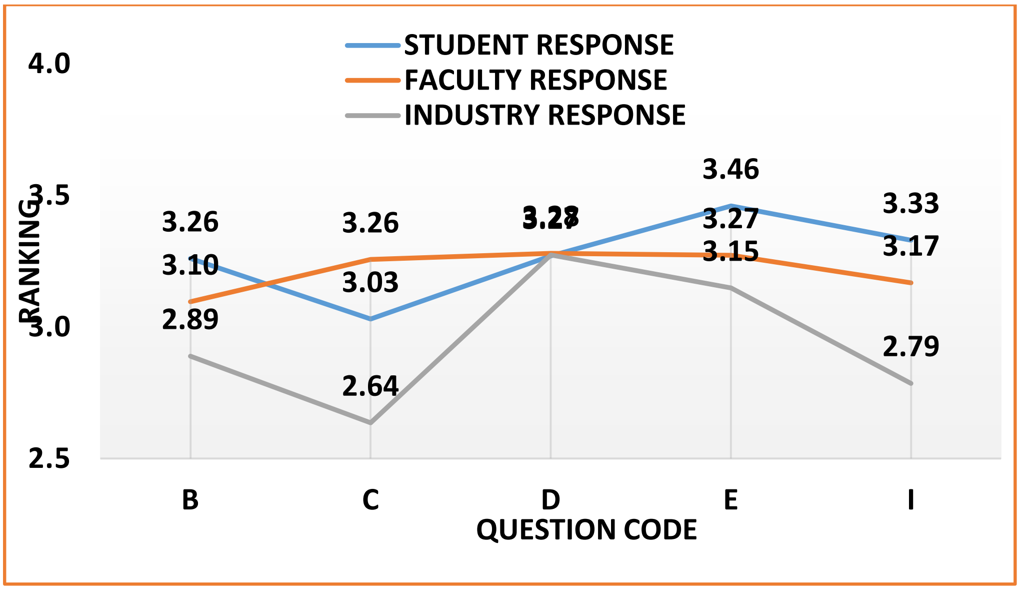



Table 4.232

| | |
|---|---|
| B | The implementation of NEP 2020 would improve skill-based learning in architecture. |
| C | The policy would encourage greater industry-academia collaboration. |
| D | NEP 2020 would encourage innovation and research-driven learning. |
| E | The revised structure under NEP 2020 would ensure graduates are better prepared for professional practice. |
| I | The policy would promote flexibility in course selection and interdisciplinary learning. |

Faculty show cautious optimism about NEP 2020, with mixed opinions on implementation feasibility.

Students are hopeful but uncertain about tangible changes reaching them.

Industry professionals are supportive, expecting NEP 2020 to bridge the industry-academia gap.

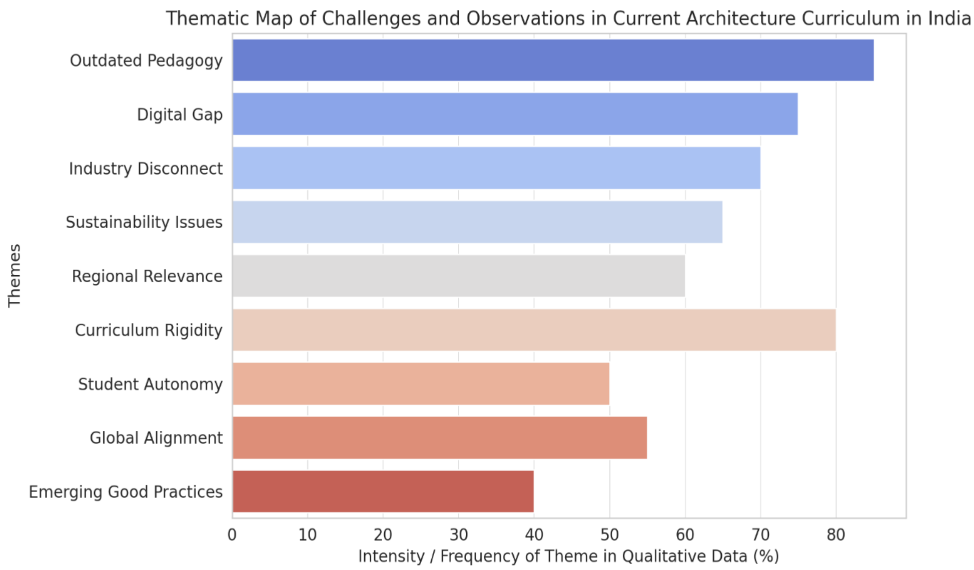
**Inference:**

**NEP 2020 is seen as a positive step, but stakeholders' express concerns about actual execution and impact.**

## 4.7 Qualitative Analysis

The study aims to analyse the qualitative aspects of the current architecture curriculum in India, in context to its relevance in the present time. The insights were developed through stakeholder interviews, analysis of public curriculum content and field observations at various institutions. We use thematic maps to visualize major challenges and innovations in the curriculum and to report the themes which emerged from the qualitative data.

**Figure 4.232: Thematic Map of Challenges**




The Thematic Map identifies the key issue in interpreting findings from the qualitative coding analysis of the current architecture curriculum in India. One of the most prevalent issues is Old Pedagogy which was the most mentioned by respondents. Many educators and students pointed out that traditional, lecture-heavy approaches dominate architectural education, stifling creative and critical design thinking. The Curriculum Rigidity comes second, which limits the options for electives and offers inflexible course structures, restricting the student autonomy and innovation.

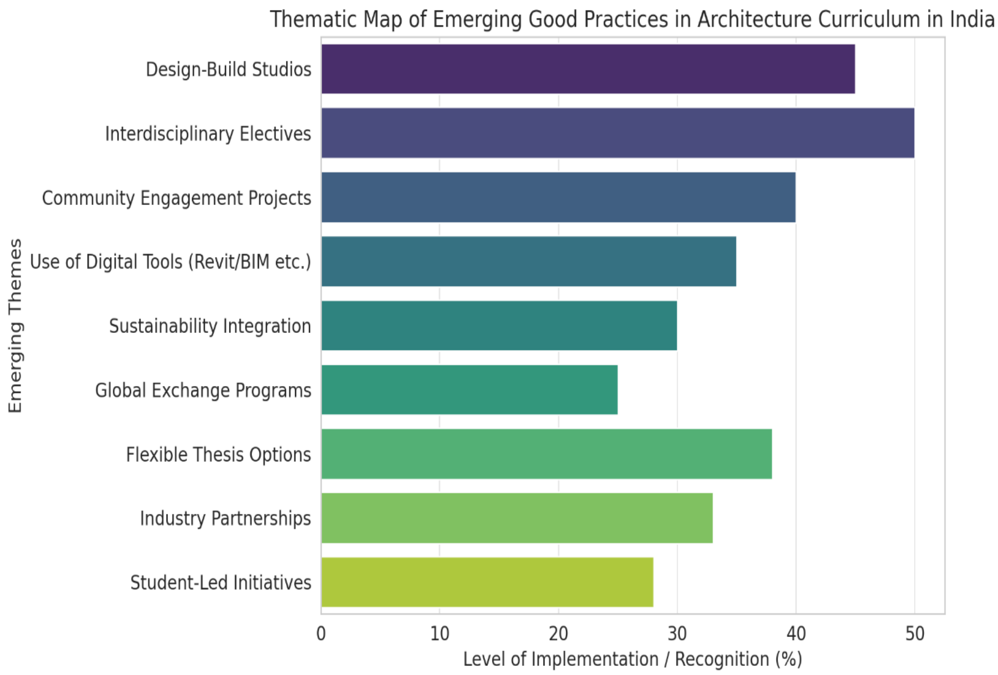
Another theme that came out was the Digital Gap, where so many institutions were years behind in adopting modern software tools and digital workflows that are being used in the profession today. With the Disconnect of Academia with

Industry, students do not have enough interaction with a live project, which leads to product inflation and makes students unprepared for the real-time challenges.

Similarly, the issues of Sustainability and Regional Relevance were often cited, suggesting that the curriculum is not deeply integrated with local environmental, cultural and socio-economic contexts. The evaluation further delineates fairly moderate apprehensions surrounding Global Alignment - a sign of prevailing international benchmarks, though barely realized in the Indian curriculum. With regards to the themes Student Autonomy and Emerging Good Practices they were mentioned less frequently (for the first theme one reference only), which indicates that while innovations are emerging, they still need some time to become widespread or institutionalised in the country.

Unsurprisingly, the thematic breakdown highlights the gap in curriculum design, pedagogy and industry-academia collaboration, suggesting that urgent reforms are needed to create an architecture education space that is future-ready, as per Indian realities.

**Figure 4.233: Emerging Good Practices**



The thematic map of emerging good practices presents an incremental and yet optimistic scenario of innovation within different strands of architectural education across the lengths and breadths of the country. Complementary Electives Interdisciplinary electives top the list because schools are moving away from requiring greater specialized knowledge and towards providing students with the ability to interact with subjects such as urban planning, environmental studies, and sociology. Next on the list is Design-build studios, which help bridge the divide between theory and practice through hands-on experience with real design and construction projects.

Community engagement projects are already being utilized as a pedagogic devices to help generate social responsibility and contextual design thinking in students. But they have only been implemented at certain institutions with a strong community outreach philosophy. While some digital tools such as Revit, Rhino, and Building Information Modeling (BIM) are slowly being adapted, it is still significantly behind the average planning & supervision industry, mostly due to limitations around resources and training.

Additional defining features include flexible Thesis options, permitting students to pursue practical, research-driven topics, and the establishment of industry partnerships enabling internships, collaborative studios, and expert lectures. International exchange programs and student led initiatives are also getting traction, but mostly in private or otherwise well-resourced settings.
Although these initiatives indicate a positive trajectory for the curriculum, the overall data demonstrates that such practices have not yet been mainstreamed, and are contingent on the individual vision of faculty or the leadership of specific architecture schools. We need to scale and standardize these best practices across our educational institutions nationwide to ensure the curriculum remains relevant and future-forward.

The qualitative analysis highlights a dual reality of the contemporary architecture curriculum in India. While on the other hand it is still struggling with old pedagogy, stiff structures and less industrial inclusion. On one hand, momentum is building towards reform, as increasing numbers of institutions embrace innovative, future-ready practices. To make the curriculum more contextually relevant and globally competitive, there is a need for a more cohesive and scalable approach to these reforms. Architectural education in the country must be framed at policy level to promote flexibility, innovation, digital literacy and contextual sensitivity.

**4.8 Hypothesis Testing:** The detailed Hypothesis testing was done using ANOVA & Chi-Square Tests. The results are as follows-

### 4.8.1 Hypothesis 1: The existing undergraduate architecture curriculum in India is adequately aligned with the current needs of the profession and does not require significant modifications.

Whether the existing undergraduate architecture curriculum in India is appropriately aligned with the current needs of the profession and can therefore be considered as adequately reflective of these needs, is a question generating considerable debate. Advocates argue that the Council of Architecture (COA) regulated programme is designed to deliver a solid foundation of knowledge, technical skills, sustainability and urban planning of the higher education experience, thus enabling graduates to face professional challenges from day one. Students gain practical experience and industry exposure through mandatory internships and real projects. Moreover, with the introduction of technology-driven design solutions, architectural education in the region introduced software-based learning, parametric design, and digital fabrication techniques to remain abreast with global trends.

Yet, critics contend that although the curriculum includes important theoretical and practical knowledge, misalignment exists between academia and changing industry needs. The fields of rapid urbanization, climate-responsive architecture, smart city development, and emerging construction technologies all require regular curriculum updates that meet relevant market needs. As the existing syllabus is oriented more towards traditional methodologies rather than the latest advancements like artificial intelligence in design, green building, certificates and project management skills. In addition, soft skills, business analysis and inter-disciplinary collaborations tend to be under-represented, which can restrict the adaptability of graduates in the workplace.

The COA updates the curriculum from time to time, but should allow for more flexibility to respond to emerging trends and area-specific challenges. To bridge the gap, a more dynamic approach that incorporates industry-academic collaborations, workshops and research-based learning might help. Whether or not the curriculum caters to the current needs of the profession is up for discussion as empirical data suggests otherwise and reform is in need. To test the above hypothesis, on-way ANOVA test has been applied taking the opinion of industry professional towards alignment of syllabus with industry requirement as dependent factor and the skills possessed by fresh architecture graduates as fixed factor. The results of the analysis are indicated below:

**Table 4.233**

**ANOVA – Hypothesis 1**

**ANOVA**

Architectural education aligns well with current industry demands and professional challeng

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 270.237 | 4 | 67.559 | 371.822 | .000 |
| Within Groups | 28.163 | 155 | .182 | | |
| Total | 298.400 | 159 | | | |

The results of the ANOVA reveal a statistically significant difference between the ways in which subjects perceive architectural education in congruency with current demands and challenges faced by practitioners in the field. The resulting F-value of 371.822 is very high and the p-value (. 000) which is much lower than the standard significance level of 0.05 indicates that at least one group differs significantly from the others. Between the groups sum of squares (270.237) and mean square (67.559) are large, while within the groups sum of squares (28.163) and mean square (0.182) are small. That means the respondents are not in accord over the adequacy of the existing curriculum and whether changes to the existing curriculum are needed in order to better align with industry demands. Hence, the hypothesis "**The existing undergraduate architecture curriculum in India is adequately aligned with the current needs of the profession and does not require significant modifications" is rejected.** This indicates that there is need for revision in the architecture curriculum.

### 4.8.2 Hypothesis 2: The rigid structure of the architecture curriculum does not hinder its adaptability to emerging trends in architecture

It is assumed that the structure of the architecture curriculum is not hindering it to adapt to the emerging trends and the new experiments. With core subjects such as design theory, construction technology, and environmental studies, students develop a rock solid foundation to understand emerging trends easily. Electives, workshops, and a thesis project also allow students to investigate current architectural trends, technology, and sustainability practices. In rebooting the syllabus, COA acts periodically and architects provide guest lectures, collaboration with the industry and research initiatives as tools to familiarise best practices in making architecture relevant.

But critics argue that the curriculum's structured nature can make it difficult to quickly adopt new trends — like parametric design, the use of artificial intelligence in architecture, smart cities and net-zero energy buildings. This is a rigid form of education that offers scarce opportunities for exploration of topics that bring together computational design, urban analytics or digital fabrication. in addition, the regulatory structure that oversees architectural education could limit the speed at which novel approaches to pedagogy can be adopted. As technology evolves and changes, so does architecture as a profession so they will say let curriculum be flexible as well so as to provide the institutes with a far better freedom to edit the course work as per needs of the time.

The existing system does provide a thorough architectural education, but whether or not it increases adaptability is up for debate. Closing the gaps of such a new age curriculum therefore calls for not only retaining the core competencies but also harnessing thin slices of flexible and research based modules that could always buttress up the existing structure in response to the vagaries in the industry. In doing so, industry may cast off the shackles of academia, which cannot be said to be a good or a bad thing in itself, and whether this rigid structure is a constraint or an enabler of that depends largely upon how institutions, educators and regulatory bodies can work together to mitigate any possible chasm between academia and practice.

To test the above hypothesis, chi-square test has been applied between impact of rigid structure of architecture on student's exposure to interdisciplinary learning and the curriculum enables students to adapt quickly to industry advancements. Examining the chi-square test to see if the rigid structure of the architecture curriculum has an impact on it —Students' exposure toward interdisciplinary learning and their capacity to adapt to industry advancements. For both variables being categorical, chi-square is appropriate as it tests if there is a significant association between both. If the test results indicate a significant correlation ($p$-value $< 0.05$), this would imply that curriculum rigour influences adaptability and the null hypothesis would be rejected. On the other hand, a lack of significant association would corroborate the assertion that the criteria of the curriculum do not obstruct adaptability to new emergent architectural trends. In this respect, the chi-square test provides empirical insights for determining whether or not adjustments need to be made to make such curriculum responsive to industry developments. The result of the test is as under:

**Table 4.234**

**Chi-Square Test –Hypothesis2**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 555.143[a] | 16 | .000 |
| Likelihood Ratio | 537.751 | 16 | .000 |
| Linear-by-Linear Association | 220.810 | 1 | .000 |
| N of Valid Cases | 250 | | |

a. 3 cells (12.0%) have expected count less than 5. The minimum expected count is 3.65.

According to the chi-square test results, the rigid structure of architecture education curriculum has severe effect on its shortcomings in accommodating the emerging trends in the architectural domain, thus bringing strong evidence against Ho statement. The Pearson Chi-Square was 555.143 with df = 16 and p-value = 0.00 suggests a significant hindrance between rigid curriculum and student's adaptability to the advancement in the industry. The Likelihood Ratio follows a similar pattern (537.751, p =. 000) and Linear-by-Linear Association (220.810, p =. 000) reinforce this finding. The p-value, being far less than 0.05, allows one to reject the null hypothesis and conclude that rigidity in the curriculum does hinder the adaptability to the trends of the day. Hence, the hypothesis i.e. "**The rigid structure of the architecture curriculum does not hinder its adaptability to emerging trends in architecture**" is rejected. These findings point to the need to inculcate flexibility in the curriculum in order to ensure that architecture students get an opportunity of being well prepared for the changing market trends.

#### 4.8.3 Hypothesis 3: The current undergraduate architecture curriculum adequately equips students with the practical skills required for professional architectural practice.

The proposed assertion that undergraduate architectural pedagogy better prepares students for the profession of architecture indicates that studies encourage practical learning within the curriculum by eliminating an emphasis on specialized classes. The curriculum is usually focused on design studios, construction technology, building materials, environmental studies, and professional practice, and it is designed to cultivate the skills that will be needed to succeed in the profession. Additionally, internship programs, site visits, workshops, and software training allow students to gain practical experience in the field of architecture, enabling them to apply theoretical knowledge and practices effectively. Certain governing bodies like the Council of Architecture (COA) in India have laid down criteria to keep the curriculum in consonance with the industry so that the pass outs are adequately equipped with the skills needed for the architectural work field.

Questions have been raised regarding the adequacy of the balance between both theoretical and practical components to address modern day professional requirements. Some critics may argue that it lacks the balance between practical aspects such as project management and financial feasibility, client interaction, and creative and technical matters, even though the curriculum will expose the students in construction techniques and sustainable design, as well as digital tools like Building Information Modeling (BIM) and parametric design. Furthermore, the rapidly changing landscape of the industry, from the rise of smart cities to AI-driven design processes and sustainable, green architecture, necessitates that educational systems keep pace with the emerging technologies and practices. There is also a need for more live projects and industry-driven collaborations, as well exposure to entrepreneurial aspects of architecture, but this is a long overdue demand of many professionals and graduates.

So, although the undergraduate architectural curriculum does prepare students in practical base skills, its adequacy for the dynamic needs of the profession remains open to question. By incorporating emerging technologies, cross-disciplinary collaboration, and experiential learning in the industry, a flexible and relevant educational model can make an even stronger contribution to the professional mind set of graduates in the field.

To test the above hypothesis, One-Way ANOVA test has been applied taking, exposure of architecture graduates to modern technology as fixed factor and inclusion of field visits, live projects and exposure to construction techniques and on-site practices as dependent factors. A One-way ANOVA test is performed to test a hypothesis that the current undergraduate architecture curriculum equips students with adequate practical skills for the profession of architectural practice or whether exposure to modern technology has a significant impact on the inclusion of field visits, live projects, exposure to construction techniques and on-site practices in the curriculum. As these dependent factors are facets of practical learning, ANOVA can help ascertain whether their inclusion is statistically significantly different depending on the type of technology exposure. Since it compares mean differences between various populations, this test is particularly useful to determine whether the means (averages) of different groups are different, as it avoids pairwise comparisons. If such ANOVA outputs are significant (high F-value has significance level $p < 0.05$) then this would suggest that exposure to modern technology will significantly affect the integration of practical training components of the curriculum. On the other hand, a lack of statistically significant difference would indicate that the curriculum at sea level and high-level latitude sites were uniformly practical irrespective of exposure to modern technologies. A statistical approach of this nature can serve to give an empirical check as to whether the curriculum serves students to be skilled enough to succeed in professional architectural practice, or if looming changes are needed to improve or encourage hands-on experience. The results of the test are as under:

**Table 4.235**

**ANOVA- Hypothesis 3**

**ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Field visits, live projects, and case studies enhance learning experiences. | Between Groups | 102.193 | 3 | 34.064 | 19.957 | .000 |
| | Within Groups | 846.607 | 496 | 1.707 | | |
| | Total | 948.800 | 499 | | | |
| There is adequate exposure to construction techniques and on-site practices. | Between Groups | 80.853 | 3 | 26.951 | 14.864 | .000 |
| | Within Groups | 899.347 | 496 | 1.813 | | |
| | Total | 980.200 | 499 | | | |

The ANOVA results show a statistically significant relationship between exposure to modern technology and the addition of field visits, live projects, case studies, construction techniques, and on-site practices in architectural education. For the parameter "Field visits, live projects and case studies enhance learning experiences," the F-value is 19.957 with a p-value of. 000 indicates a noteworthy difference in responses between groups, pointing towards the presence of modern technology likely determining how deeply embedded these skills are taught. Likewise, as for the factor "There is adequate exposure to construction techniques and on-site practices," the F-value of 14.864 with the p-value. 000 suggests that the level of technological exposure affects the applicability of real world construction practices amongst students. With both p-values being lesser than 0.05, it leads to rejection of the null hypothesis of no significant difference, which reiterates the role technological exposure holds in the formative aspects of practical trainings in architectural education. These findings imply that integrating more technology-driven learning experiences can better prepare students for professional architectural practice. Hence, the hypothesis "**The current undergraduate architecture curriculum adequately equips students with the practical skills required for professional architectural practice" is rejected.**

### 4.8.4 Hypothesis 4: There are no significant challenges faced by students and faculty in adopting modern technologies in architectural education.

The hypothesis "There are no significant challenges faced by students and faculty in adopting modern technologies in architectural education" implies the smooth integration of digital tools and advanced technologies into education without major obstacles. Over the years, architectural education has incorporated numerous tools such as Building Information Modeling, parametric design, virtual reality, and augmented reality, artificial intelligence applications, digital fabrication techniques, among others, to ensure a top-notch learning experience and enhance professional preparedness. These tools provide students the chances to engage in complex design processes, experience real-time city simulations, and decision through data-driven, preparing them for industry expectations. Nevertheless, the usage of modern technologies in architectural education presents several challenges for both students and faculty members. Some of the most frequent issues include limited access to high-end software, insufficient infrastructure, high costs of digital tools, and limited availability of needed facilities. Many schools do not have a modern computer lab with the latest software, high-speed internet, and licensed software, thus students do not get the opportunity to experience these tools. Faculty members experience difficulty in integrating modern technologies into their curriculum because the process requires regular evaluation and redesign of the course. It also raises resistance from various pundits who do not believe that the technologically proven tools give the students the expected experience.

To test the above hypothesis, the hypothesis is sub-divided in two parts viz.,

a. **There are no significant challenges faced by students in adopting modern technologies in architectural education.**
b. **There are no significant challenges faced by faculty in adopting modern technologies in architectural education.**

### i. Sub-Hypothesis A:

To test the hypothesis, "**There are no significant challenges faced by students in adopting modern technologies in architectural education"** chi-square test has been applied between the variables, The current architecture curriculum prepares students for real-world industry challenges and Students face challenges in adapting to rapidly evolving digital trends in architecture. The results are as under:

**Table 4.236**

**Chi-Square Test- Hypothesis 4A**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 1106.536[a] | 16 | .000 |
| Likelihood Ratio | 1061.806 | 16 | .000 |
| Linear-by-Linear Association | 453.632 | 1 | .000 |
| N of Valid Cases | 500 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.40.

The results of the Chi-Square test showed a statistically significant relationship between both variables "The current architecture curriculum prepares students for real-world industry challenges" and "Students experience challenges adapting to rapidly evolving digital trends in architecture. Using the Pearson Chi-Square shows $|x^2|$=1106.536 and p=0.000 indicates **rejection of the null hypothesis** which assumes no significant hindrances to the adoption of modern technologies. **This suggests that students actually are experiencing significant challenges in assimilating digital advancements in architecture.** Both values have a p-value of.1061.806, and Linear-by-Linear Association which has a value of 453.632. (the relationship is statistically significant at p=0.000), and similar data are given in the accompanying table. Furthermore, because all expected values are greater than 5, the test results would be reliable. This indicates that despite the curriculum focusing on equipping students with qualifications to tackle industry matters, hurdles such as the steep learning curve of digital tools, lack of access to resources, and gaps in technological education are still highly regarded as barriers. Thus, improving infrastructures, faculty training, and programs for digital literacy can be implemented to address these challenges and this will enhance students' adaptability levels to the modern architectural technologies.

### ii. Sub-Hypothesis B:

To test the hypothesis, "**There are no significant challenges faced by faculty in adopting modern technologies in architectural education"** chi-square test has been applied between the variables, Regular workshops and training programs on modern technologies are conducted. and the rapid evolution of digital tools creates challenges for faculty in keeping up with industry trends. The results are as under:

**Table 4.237**

**Chi-Square Test- Hypothesis 4B**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 761.592[a] | 16 | .000 |
| Likelihood Ratio | 634.694 | 16 | .000 |
| Linear-by-Linear Association | 236.182 | 1 | .000 |
| N of Valid Cases | 250 | | |

a. 3 cells (12.0%) have expected count less than 5. The minimum expected count is 3.26.

Chi-Square test results indicate a statistically significant relationship between variables: "Regular workshops and training programs on modern technologies are conducted" and "The rapid evolution of digital tools creates challenges for faculty in keeping up with industry trends." With a Pearson Chi-Square value of 761.592 and a p value of 0.000; hence, **the null hypothesis that faculty do not face significant challenges using modern technologies is rejected**. This indicates that faculty members face significant challenges keeping pace with rapidly changing digital tools despite the availability of training programs.

Likely hood ratio of 634694, Linear-by-Linear Association of 236.182 with p-value of 0.00, reinforcing the statistical significance of the association. Moreover, 12% of the expected counts are less than 5 (with the least 3.26); Although this slightly affects the distribution reliability, it does not compromise the result overall significance. These findings underpin the necessity for more organized, regular, and practical training initiatives, increased institutional backing, and greater integration of digital updates in staff development programs to enhance their capacity to stay current with industry trends in architectural education.

Since, in both the above cases the null hypothesis is rejected, hence, the hypothesis "**There are no significant challenges faced by students and faculty in adopting modern technologies in architectural education" is rejected.**

**4.8.5 Hypothesis 5: The National Education Policy (NEP) 2020 has no significant influence on the restructuring of the undergraduate architecture curriculum in India.**

The National Education Policy (NEP) 2020 Did Not Have a Major Impact on Restructuring the Undergraduate Architecture Curriculum in India Also, as a field, architecture strongly resonates with the interdisciplinary, flexible, skill-oriented and tech-enabled emphases of NEP 2020. In response to growing needs for innovation, sustainability, and digital proficiency in architectural practice, the policy promotes interdisciplinary approaches, research, and the incorporation of emerging technologies in designs and models (AI, parametric design, and BIM, to name a few).

NEP 2020 is expected to usher in the much-needed structural reforms in higher education, whose impact on various programs such as architecture needs to be assessed. Architecture is a highly specialized and regulated profession guided by the Council of Architecture (CoA), which regulates the curriculum framework. On one hand, the policy advocates for increased autonomy in curriculum development, academic flexibility, and the introduction of vocational skill components, all of which offer opportunities, facing new challenges on the other hand, along with architectural education. While some institutions have already begun to adopt interdisciplinary electives, tie-ups with industries, and systems based on credit-based modular courses, in strict consonance with NEP 2020, others are still stuck in the rut of an antiquated curriculum structure.

In testing this hypothesis empirically, incubators would analyze for course changes, faculty development and training, new pedagogies, and technology-centred courses. The hypothesis may come true, if the statistical analysis does not mark any major difference in the curriculum before and after NEP 2020. We are of the opinion that while it invokes a drastically different curriculum, if modified significantly, it would indicate that NEP 20 would play a role in the restructuring of architectural education in India, and then further discussion with respect to its effective influence on the preparedness of the profession will be required.

To test the above hypothesis, one-way ANOVA test has been applied taking Flexibility provided by NEP 2020 in course design and curriculum update as fixed factor and NEP 2020 would lead to positive changes in architectural education as dependent factor, the result of the test are as under:

**Table 4.238**

**ANOVA- Hypothesis 5**

**ANOVA**

NEP 2020 would lead to positive changes in architectural education.

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 430.988 | 4 | 107.747 | 897.034 | .000 |
| Within Groups | 29.428 | 245 | .120 | | |
| Total | 460.416 | 249 | | | |

The ANOVA for the component perception regarding NEP 2020 impact on architectural education yielded a p-value of <0.005, suggesting a significant difference. The F-value of 897.034 at p-value 0.000 suggests that we can reject the null hypothesis which states that NEP 2020 does not significantly impact the restructuring of the undergraduate architecture curriculum. The Mean Square value, which is 107.747 between groups comparison and 0.120 within groups comparison also indicates that the opinions of participants regarding NEP 2020 is significantly different. Noticeably, though statistically significant, the results indicate that respondents deem NEP 2020 to have a non-negotiable function in the space of architecture education, evidence for which might be found in its encouragement for inter and multidisciplinary knowledge base, flexibility and technology integration. That would, thus, require educational institutions and policymakers to re-evaluate their curricular frameworks, faculty training programs, and course structures to meet the goals proposed by NEP 2020. Hence, the hypothesis "**The National Education Policy (NEP) 2020 has no significant influence on the restructuring of the undergraduate architecture curriculum in India" is rejected.**

### 4.9 Overview of B.Arch. Curriculum in India

The B.Arch. program in India is a five-year professional degree approved by the Council of Architecture (COA), encompassing both theoretical and practical training. The curriculum is structured to provide a holistic understanding of architecture, integrating design, technology, history, and professional practice.

The Architecture curriculum for B.Arch. broadly covers the following areas:

**i. *Design Studios***

Design studios are central to the B.Arch. curriculum, fostering creativity and practical application of architectural principles. Institutions offer progressive studio courses, from foundational design to complex urban and sustainable design projects spanned across almost all the semesters normally culminating into Architectural Design Thesis in the Xth(final) semester. It is expected that all the theoretical and practical knowledge gained through other subjects shall be integrated with the Design Studios. Research and Innovation is expected to be the integral part of Design Studios. Typically about 40% of overall credits are devoted to Design Studios.

**ii.** ***Building Construction & Technology***

Courses in building construction and technology are integral, covering materials, methods, and system. Institutions are expected to provide comprehensive modules on building technology and materials, structural systems, and building services, ensuring students acquire practical knowledge essential for real-world application. The learning is expected to happen in progressive fashion in coordination with the level of Design exercises introduced in Design Studios across all semesters. Construction Technology, Structural systems, Building services etc. are considered to be back bone of Architectural projects conceived in Design Studios. About 20% of overall credits are expected to be devoted for this group of courses.

**iii.** ***Architectural History & Theory***

A robust understanding of architectural history and theory is emphasized across institution. Institutions offer multiple semesters dedicated to the history and Theory of architecture, enabling students to contextualize their designs within historical and cultural framework. The credits expected to be cumulatively covered for these courses is 7 to 10% of total credits.

**iv.** ***Sustainability & Environmental Design***

Sustainability is increasingly prioritized in architectural education. Few Institutions have successfully integrated sustainable building design and energy simulation courses, while few others offer electives in sustainable architecture, reflecting the growing importance of eco-friendly design practice. CoA curriculum guidelines presently considers subjects like Disaster Mitigation and Management, Green Buildings and Rating Systems, Sustainable Cities and Communities, Building Performance and Compliance, Appropriate Building Technologies and Earthquake Resistant Architecture under optional category as Professional Electives. Whereas Climatology and Environmental Science for Architecture are recommended as compulsory subjects under the basket of ‘Building Science and Applied Engineering’ by CoA.

**v. *Technology Integration***

The desire of incorporation of technology is evident in curricula across institutions. Few Institutions have introduced courses on artificial intelligence applications in architecture, while few others include AI exercises, preparing students for the digital transformation in the field. CoA guidelines propose Computer Studio, Building Information Modelling, Digital Graphics and Art as compulsory subjects under 'Skill Enhancement Courses' category with a expected overall credit percentage of 5 to 8%.

**vi. *Professional Practice & Ethics***

Professional practice and ethics are addressed through compulsory courses & internship as recommended by CoA under 'Professional Ability Enhancement Courses'. The recommendation includes subjects like Professional Practice, Internship/ Practical Training, Project Management and Dissertation/ Seminar so as to bridge the gap between academia and practice. CoA recommends 10% overall Credit allocation to this basket of Subjects.

## 4.10 Comparative Analysis of Curricula of Institutions imparting B.Arch. Education in India w.r.t. Council of Architecture Norms

Council of Architecture, which is apex regulatory body for Architecture Education and Profession pan India, established under Architect's Act 1972, has provided Minimum Standards for Architecture Education, 2020**.** It is mandatory for all the Institutions in India to follow these norms and Standards. This study aims at comparing the Curricula of various Institutions with reference to the credits allotted for various courses under the categories as provided by the CoA so as to identify variations, if any. The Institutions are categorised based on there similarities and three such samples are studied from each category so as to understand the similarities and differences. The Institutional categories are as follows-

1. Deemed Universities & Autonomous Institutions
2. Central Government Institutions
3. Private Institutions (Affiliated to Public Universities)

### 4.10.1 Deemed Universities & Autonomous Institutions :

Following three deemed universities/ autonomous Institutions were selected from various Geographic locations across India.

Case 1. SSPAD, Nagpur, Maharashtra
Case 2. SRM University, Chennai
Case 3. Sushant University, Gurugram, Haryana

**Table 4.239 : Credit Distribution: Deemed Univ. & Autonomous Inst.**

| I. PROFESSIONAL CORE COURSES (PC) | | 1 | 2 | 3 |
|---|---|---|---|---|
| | | **SSPAD, Nagpur** | **SRM** | **Sushant** |
| 1 | Basic Design and Visual Arts | 9 | 12 | 12 |
| 2 | Architectural Design | 45 | 112 | 70 |
| 3 | Architectural Design Thesis | 18 | 18 | 16 |
| 4 | Architectural Graphics and Drawing | 17 | 11 | 6 |
| 5 | History of Architecture and Culture | 10 | 12 | 8 |
| 6 | Principles/ Theory of Architecture | 4 | 3 | 8 |
| 7 | Urban Design | 12 | 3 | - |
| 8 | Human Settlements Planning | 6 | 3 | 2 |
| 9 | Housing | - | 3 | - |
| 10 | Landscape Design | 3 | 3 | 3 |
| 11 | Site Planning | 2 | 3 | - |
| 12 | Carpentry and Model Making Workshop | 6 | 3 | 4 |
| 13 | Specifications, Cost Estimation and Budgeting | 5 | 3 | 2 |
| | **TOTAL** | **137** | **189** | **131** |
| **II. BUILDING SCIENCES AND APPLIED ENGINEERING (BS AND AE)** | | **1** | **2** | **3** |
| | | **SSPAD, Nagpur** | **SRM** | **Sushant** |
| 14 | Building Materials | | 3 | 5 |
| 15 | Building Construction | 24 | 12 | 25 |
| 16 | Applied Mechanics | | 3 | 2 |
| 17 | Structural Design and Systems | 21 | 9 | 18 |
| 18 | Climatology | 4 | | 2 |
| 19 | Building Services | 14 | 6 | 8 |
| 20 | Surveying and Levelling | 2 | | 3 |
| 21 | Acoustics | - | 3 | - |
| 22 | Environmental lab | - | - | - |
| 23 | Environmental Science for Architecture | 4 | 3 | 2 |
| | **TOTAL** | **69** | **39** | **65** |

| III. PROFESSIONAL ELECTIVE (PE) | | 1 | 2 | 3 |
|---|---|---|---|---|
| | | **SSPAD, Nagpur** | **SRM** | **Sushant** |
| 24 | Theory of Design | | | 2 |
| 25 | Vernacular Architecture | 2 | 3 | 2 |
| 26 | Interior Design | - | 3 | 2 |
| 27 | Art Appreciation | - | - | 2 |
| 28 | Art in Architecture | - | 3 | - |
| 29 | Graphic and Product Design | 3 | 6 | 2 |
| 30 | Contemporary Processes in Architecture | - | 3 | 2 |
| 31 | Architectural Journalism | 4 | 3 | 2 |
| 32 | Disaster Mitigation and Management | - | - | - |
| 33 | Green Buildings and Rating Systems | - | - | - |
| 34 | Sustainable Cities and Communities | 3 | | 2 |
| 34A. | Building Performance and Compliance | - | 3 | - |
| 35 | Architecture of South East Asia | - | 3 | 2 |
| 36 | Architectural Design with Steel | - | 6 | - |
| 37 | Architectural Design with Glass | - | - | - |
| 38 | Furniture Design | - | - | 2 |
| 39 | Appropriate Building Technologies | - | - | 3 |
| 40 | Earthquake Resistant Architecture | - | 3 | - |
| 41 | Architectural Conservation | - | 6 | 3 |
| 42 | Building Systems Integration and Management | - | 3 | 3 |
| | **TOTAL** | **12** | **21** | **29** |

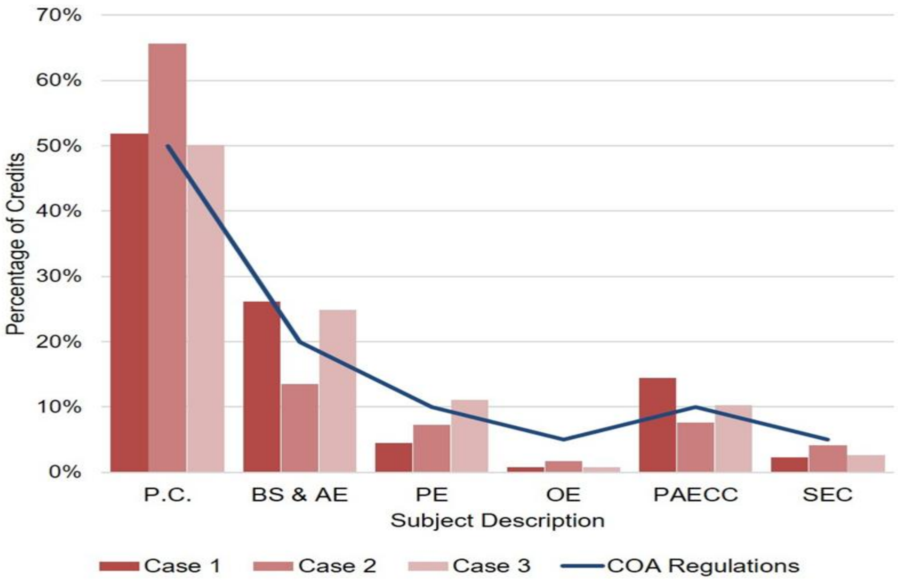
| **OPEN ELECTIVE (OE)** | | 1 | 2 | 3 |
|---|---|---|---|---|
| Subjects of study other than Architecture | | **SSPAD, Nagpur** | **SRM** | **Sushant** |
| | | 2 | 5 | 2 |
| | **TOTAL** | **2** | **5** | **2** |

| IV. PROFESSIONAL ABILITY ENHANCEMENT COURSES | | | | |
|---|---|---|---|---|
| **A. PROFESSIONAL ABILITY ENHANCEMENT COMPULSORY COURSES** | | **1** | **2** | **3** |
| | | **SSPAD, Nagpur** | **SRM** | **Sushant** |
| 43 | Professional Practice | 3 | 3 | 3 |
| 44 | Internship or Practical Training | 20 | 13 | 16 |
| 45 | Project Management | - | 2 | - |
| 46 | Dissertation or Seminar or Research Methodology | 15 | 4 | 8 |
| | **TOTAL** | **38** | **22** | **27** |
| **V. SKILL ENHANCEMENT COURSES** | | **1** | **2** | **3** |
| | | **SSPAD, Nagpur** | **SRM** | **Sushant** |
| 47 | Communication Skills | - | 3 | 2 |
| 48 | Computer Studio | 2 | 3 | - |
| 49 | Building Information Modelling | - | 3 | - |
| 50 | Digital Graphics and Art | - | - | - |
| 51 | Entrepreneurship Skills for Architects | 4 | - | 5 |
| 52 | Foreign Language | - | - | - |
| | **TOTAL** | **6** | **12** | **7** |

**Table 4.240 : Deemed Univ. & autonomous Inst. Curriculum percentage distribution Analysis**

| Sr. No. | Description | COA Regulations | | Case 1 | | Case 2 | | Case 3 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Recommend-ed percentage | Credits | Actual Percentage | Credits | Actual Percentage | Credits | Actual Percentage | Credits |
| 1. | **P.C.** | 50% | 130-150 | 51.90% | 137 | 65.63% | 189 | 50.18% | 131 |
| 2. | **BS & AE** | 20% | 52-60 | 26.14% | 69 | 13.54% | 39 | 24.90% | 65 |
| 3. | **PE** | 10% | 26-30 | 4.54% | 12 | 7.29% | 21 | 11.10% | 29 |
| 4. | **OE** | 5% | 13-15 | 0.75% | 2 | 1.74% | 5 | 0.80% | 2 |
| 5. | **PAECC** | 10% | 26-30 | 14.40% | 38 | 7.64% | 22 | 10.34% | 27 |
| 6. | **SEC** | 5% | 13-15 | 2.27% | 6 | 4.16% | 12 | 2.68% | 7 |
| | **Total** | **100%** | **260-300** | **100%** | **264** | **100%** | **288** | **100%** | **261** |

**Figure 4.234: Deemed Univ. & autonomous Inst. Curriculum percentage distribution Analysis**




**Findings:**

i. Total number of credits in all the three cases is within the permissible range (260 to 300) as stipulated by CoA.

ii. In case of Professional Core Subjects (PC) , with the exception of Case 2, where Credits offered (189) are about 15% higher than the recommended range by CoA, other cases are within the range.

iii. As far as Building Sciences and Applied Engineering (BS & AE) is concerned, except for Case 2, where credit offered (39) are about 7% lower than the recommended range by CoA, other cases are offering about 5% credits above the range.

iv. In case of Professional Electives (PE) Except for Case 3, where credits offered (29) is within the recommended range of CoA, others are offering lesser credits indicating lessor number and choice of electives to students.

v. All are offering very less number and credits in Open Electives. (OE).

vi. Though CoA has prescribed Project Management as compulsory subject under the list of

Professional Ability Enhancement Compulsory Courses (PEECC), except for Case 2, others are not offering it.

vii. Overall, less focus is observed in Skill Enhancement Courses (SEC) as compared to the CoA recommended range. The subjects like Building Information Modelling (BIM), Digital Graphics and Arts, Foreign Language are more or less ignored.

viii. In BS & AE subjects, Environmental Lab and Acoustics are by and large not covered.

ix. In case of PE, majority do not offer Disaster Mitigation and Management, Green Buildings and Rating Systems, Building Performance and Compliance, Architectural Design with Steel, Architectural Design with Glass, Furniture Design, Appropriate Building Technologies and. Earthquake Resistant Architecture.

### 4.10.2 Central Government Institutions :

Following three Centrally Funded Technical Institutions (CFTI) were selected from various Categories across India.

Case 1. National Institute of Technology, Trichy

Case 2. Indian Institute of Technology, Roorkee

Case 3. School of Planning and Architecture, Vijaywada

**Table 4.241: Credit Distribution: Central Government Institutions**

| **I. PROFESSIONAL CORE COURSES (PC)** | | **1** | **2** | **3** |
|---|---|---|---|---|
| | | **NIT Trichy** | **IIT, Roorkee** | **SPA Vijaywada** |
| 1 | Basic Design and Visual Arts | 10 | 6 | 20 |
| 2 | Architectural Design | 58 | 36 | 68 |
| 3 | Architectural Design Thesis | 16 | 15 | 26 |
| 4 | Architectural Graphics and Drawing | 8 | 12 | 15 |
| 5 | History of Architecture and Culture | 9 | 9 | 12 |
| 6 | Principles/ Theory of Architecture | 3 | 3 | 3 |
| 7 | Urban Design | 3 | 4 | 3 |

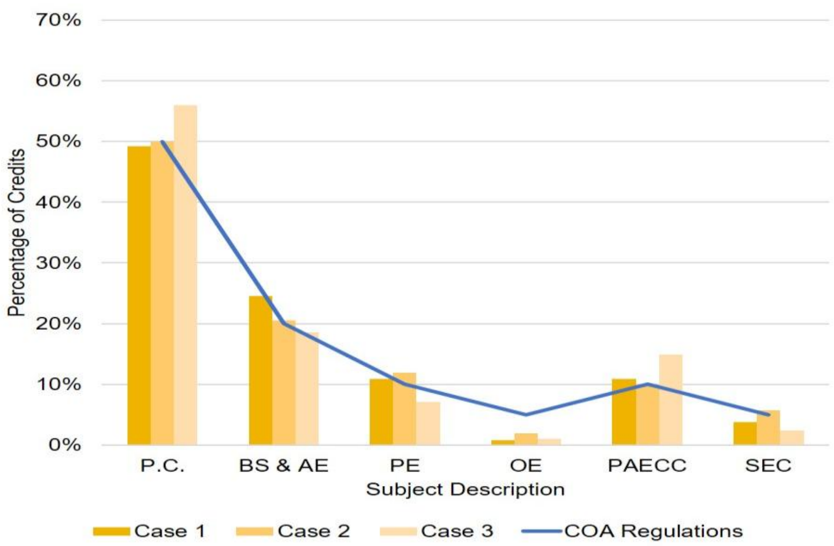
| | | | | |
|---|---|---|---|---|
| 8 | Human Settlements Planning | 3 | 4 | 3 |
| 9 | Housing | Elective | Elective | 4 |
| 10 | Landscape Design | 3 | 3 | 4 |
| 11 | Site Planning | - | 3 | 4 |
| 12 | Carpentry and Model Making Workshop | 2 | 4 | |
| 13 | Specifications, Cost Estimation and Budgeting | 3 | 6 | 4 |
| | **TOTAL** | **118** | **105** | **166** |
| **II. BUILDING SCIENCES AND APPLIED ENGINEERING (BS AND AE)** | | **1** | **2** | **3** |
| | | **NIT Trichy** | **IIT, Roorkee** | **SPA Vijaywada** |
| 14 | Building Materials | | | |
| 15 | Building Construction | 18 | 15 | 25 |
| 16 | Applied Mechanics | 3 | - | 4 |
| 17 | Structural Design and Systems | 14 | 14 | 11 |
| 18 | Climatology | 3 | 3 | 3 |
| 19 | Building Services | 9 | 6 | 9 |
| 20 | Surveying and Levelling | 3 | 2 | - |
| 21 | Acoustics | 3 | Elective | - |
| 22 | Environmental lab | - | - | - |
| 23 | Environmental Science for Architecture | 6 | 3 | 3 |
| | **TOTAL** | **59** | **43** | **55** |
| **III. PROFESSIONAL ELECTIVE (PE)** | | **1** | **2** | **3** |
| | | **NIT Trichy** | **IIT, Roorkee** | **SPA Vijaywada** |
| 24 | Theory of Design | | | Yes |
| 25 | Vernacular Architecture | Yes | Yes | Yes |
| 26 | Interior Design | 3 | Yes | Yes |
| 27 | Art Appreciation | | | Yes |
| 28 | Art in Architecture | | | |
| 29 | Graphic and Product Design | Yes | Yes | Yes |
| 30 | Contemporary Processes in Architecture | 3 | 3 | Yes |
| 31 | Architectural Journalism | Yes | Yes | Yes |
| 32 | Disaster Mitigation and Management | 2 | Yes | 3 |
| 33 | Green Buildings and Rating Systems | 3 | | 3 |
| 34 | Sustainable Cities and Communities | Yes | 7 | Yes |
| 34A. | Building Performance and Compliance | Yes | | Yes |
| 35 | Architecture of South East Asia | | Yes | Yes |
| 36 | Architectural Design with Steel | Yes | Yes | |
| 37 | Architectural Design with Glass | | Yes | |
| 38 | Furniture Design | | | |
| 39 | Appropriate Building Technologies | Yes | | |

| | | | | |
|---|---|---|---|---|
| 40 | Earthquake Resistant Architecture | | | |
| 41 | Architectural Conservation | Yes | Yes | 3 |
| 42 | Building Systems Integration and Management | Yes | | |
| | **TOTAL** | **26** | **25** | **21** |
| | | **15 Credits** | **15 credits** | **12 credits** |
| **OPEN ELECTIVE (OE)** | | **1** | **2** | **3** |
| Subjects of study other than Architecture | | **NIT Trichy** | **IIT, Roorkee** | **SPA Vijaywada** |
| | | 2 | 4 | 3 |
| | **TOTAL** | **2** | **4** | **3** |
| **IV. PROFESSIONAL ABILITY ENHANCEMENT COURSES** | | | | |
| **A. PROFESSIONAL ABILITY ENHANCEMENT COMPULSORY COURSES** | | **1** | **2** | **3** |
| | | **NIT Trichy** | **IIT, Roorkee** | **SPA Vijaywada** |
| 43 | Professional Practice | 6 | 4 | 4 |
| 44 | Internship or Practical Training | 15 | 10 | 30 |
| 45 | Project Management | 3 | Elective | 4 |
| 46 | Dissertation or Seminar or Research Methodology | 2 | 7 | 6 |
| | **TOTAL** | **26** | **21** | **44** |
| **V. SKILL ENHANCEMENT COURSES** | | **1** | **2** | **3** |
| | | **NIT Trichy** | **IIT, Roorkee** | **SPA Vijaywada** |
| 47 | Communication Skills | 3 | 4 | 3 |
| 48 | Computer Studio | 6 | 6 | 4 |
| 49 | Building Information Modelling | - | Elective | Elective |
| 50 | Digital Graphics and Art | - | - | Elective |
| 51 | Entrepreneurship Skills for Architects | - | 2 | Elective |
| 52 | Foreign Language | - | - | - |
| | **TOTAL** | **9** | **12** | **7** |

**Table 4.242: Central Government Institutions: Curriculum percentage distribution Analysis**

| Central Government Institutions | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Description | COA Regulations | | Case 1 | | Case 2 | | Case 3 | |
| | | Recommended percentage | Credits | Actual Percentage | Credits | Actual Percentage | Credits | Actual Percentage | Credits |
| 1. | P.C. | 50% | 130-150 | 49.17% | 118 | 50.00% | 105 | 56.00% | 166 |
| 2. | BS & AE | 20% | 52-60 | 24.58% | 59 | 20.48% | 43 | 18.60% | 55 |
| 3. | PE | 10% | 26-30 | 10.83% | 26 | 11.91% | 25 | 7.10% | 21 |
| 4. | OE | 5% | 13-15 | 0.83% | 2 | 1.90% | 4 | 1.02% | 3 |
| 5. | PAECC | 10% | 26-30 | 10.83% | 26 | 10.00% | 21 | 14.90% | 44 |
| 6. | SEC | 5% | 13-15 | 3.75% | 9 | 5.71% | 12 | 2.38% | 7 |
| | **Total** | 100% | 260-300 | 100% | 240 | 100% | 210 | 100% | 296 |

**Figure 4.235: Central Government Institutions: Curriculum percentage distribution Analysis**




**Findings:**

i. Total number of credits except for Case no. 2 (210) are within the permissible range (260 to 300) as stipulated by CoA.

ii. In case of Professional Core Subjects (PC) , with the exception of Case 3, where Credits offered (166) are about 6% higher than the recommended range by CoA, other cases are within the range.

iii. As far as Building Sciences and Applied Engineering (BS & AE) is concerned, all the cases are satisfying the recommended percentage range by CoA. Case 1 is marginally high offering about 5% credits above the range.

iv. In case of Professional Electives (PE) Except for Case 3, where credits offered (21) are slightly lessor, other cases are within the recommended range of CoA. This change in case 3 may be attributed to more credits provided to PC (6% higher)

v. All are offering very less number and credits in Open Electives. (OE).

vi. The percentage range for Professional Ability Enhancement Compulsory Courses (PEECC), are within the prescribed range of CoA. Though Project Management is offered as Elective by Case 2 and Practical Training has been provided with higher credits (30 as compared to 12 & 15 for other cases) by Case 3.

vii. Overall, less focus is observed in Skill Enhancement Courses (SEC) as compared to the CoA recommended range. The subjects like Building Information Modelling (BIM), Digital Graphics and Arts, Foreign Language are more or less ignored or otherwise included in the list of Electives, making it optional.

viii. In BS & AE subjects, Environmental Lab and Acoustics are by and large not covered.

ix. In case of PE, majority do not offer Art Appreciation, Art in Architecture, Furniture Design, Appropriate Building Technologies and Earthquake Resistant Architecture, Building system Integration and Management.

x. Certain Subjects from the list of PE as recommended by CoA have been treated as Compulsory Subjects by the Institutions, possibly defining their thrust areas. These subjects include Contemporary Processes in Architecture, Disaster Mitigation and Management, Green Buildings and Rating Systems & Sustainable Cities and Communities.

xi. The Credit calculation systems seems to be having some discrepancies, since number of teaching learning hours and the duration of program remains same for all the Cases but the difference in total number of credits is remarkable.

### 4.10.3 Private Institutions (Affiliated to Public Universities)

Following three Public Universities who have several Architectural Institutions affiliated to there respective jurisdiction were selected from across India.

Case 1. University of Pune

Case 2. Rajasthan Technical University, Kota

Case 3. University of Nagpur

**Table 4.243: Credit Distribution: Private Institutions**

| I. PROFESSIONAL CORE COURSES (PC) | | 1 | 2 | 3 |
|---|---|---|---|---|
| | | **Pune** | **RTU, Kota** | **Nagpur University** |
| 1 | Basic Design and Visual Arts | 10 | 9 | 16 |
| 2 | Architectural Design | 72 | 59 | 70.5 |
| 3 | Architectural Design Thesis | 18 | 20 | 15 |
| 4 | Architectural Graphics and Drawing | 9 | 13 | 17 |
| 5 | History of Architecture and Culture | 8 | 10 | 7.5 |
| 6 | Principles/ Theory of Architecture | 2 | - | 4 |
| 7 | Urban Design | 3 | - | 2.5 |
| 8 | Human Settlements Planning | 3 | 3 | 2.5 |
| 9 | Housing | - | - | - |
| 10 | Landscape Design | 3 | 3 | 5 |
| 11 | Site Planning | - | - | - |
| 12 | Carpentry and Model Making Workshop | 4 | 3 | 2 |
| 13 | Specifications, Cost Estimation and Budgeting | 6 | 4 | 7 |
| | **TOTAL** | **138** | **124** | **149** |

| II. BUILDING SCIENCES AND APPLIED ENGINEERING (BS AND AE) | | 1 | 2 | 3 |
|---|---|---|---|---|
| | | **Pune** | **RTU, Kota** | **Nagpur University** |
| 14 | Building Materials | 10 | 4 | 4 |
| 15 | Building Construction | 28 | 24 | 34 |
| 16 | Applied Mechanics | | | 2.5 |
| 17 | Structural Design and Systems | 12 | 15 | 12.5 |

| | | | | |
|---|---|---|---|---|
| 18 | Climatology | 2 | 2 | 5 |
| 19 | Building Services | 12 | 6 | 10 |
| 20 | Surveying and Levelling | 2 | 5 | 2 |
| 21 | Acoustics | | 2 | 2.5 |
| 22 | Environmental lab | | | |
| 23 | Environmental Science for Architecture | 2 | 2 | 2.5 |
| | **TOTAL** | **68** | **60** | **75** |

| **III. PROFESSIONAL ELECTIVE (PE)** | | **1** | **2** | **3** |
|---|---|---|---|---|
| | | **Pune** | **RTU, Kota** | **Nagpur University** |
| 24 | Theory of Design | Yes | | Yes |
| 25 | Vernacular Architecture | | Yes | 2.5 |
| 26 | Interior Design | Yes | 3 | Yes |
| 27 | Art Appreciation | | | Yes |
| 28 | Art in Architecture | Yes | Yes | Yes |
| 29 | Graphic and Product Design | Yes | Yes | Yes |
| 30 | Contemporary Processes in Architecture | 2 | | 1.5 |
| 31 | Architectural Journalism | | Yes | Yes |
| 32 | Disaster Mitigation and Management | Yes | 2 | - |
| 33 | Green Buildings and Rating Systems | - | - | - |
| 34 | Sustainable Cities and Communities | - | 2 | Yes |
| 34A. | Building Performance and Compliance | Yes | Yes | - |
| 35 | Architecture of South East Asia | | Yes | - |
| 36 | Architectural Design with Steel | Yes | - | Yes |
| 37 | Architectural Design with Glass | Yes | - | - |
| 38 | Furniture Design | Yes | Yes | Yes |
| 39 | Appropriate Building Technologies | Yes | - | 4 |
| 40 | Earthquake Resistant Architecture | Yes | - | Yes |
| 41 | Architectural Conservation | Yes | Yes | Yes |
| 42 | Building Systems Integration and Management | - | - | - |
| | **TOTAL** | **11** | **19** | **24** |
| | | **9 credits** | **12 credits** | **16 credits** |

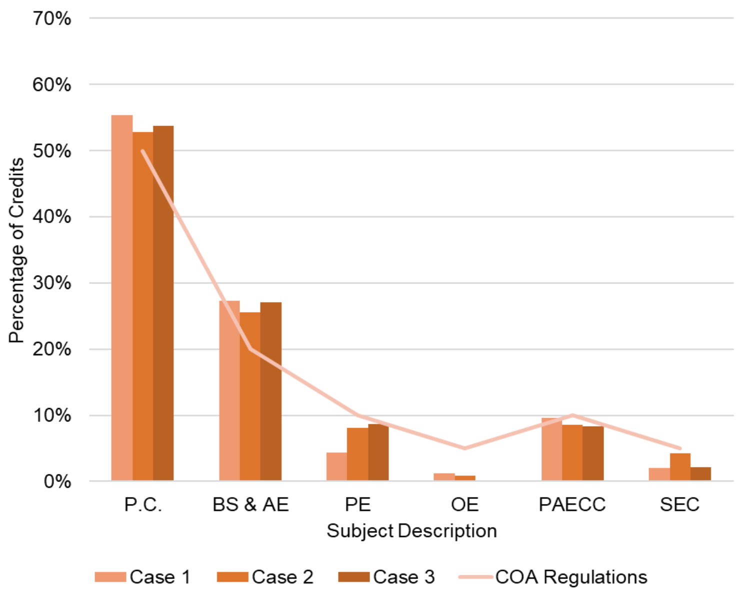
| **OPEN ELECTIVE (OE)** | | **1** | **2** | **3** |
|---|---|---|---|---|
| Subjects of study other than Architecture | | **Pune** | **RTU, Kota** | **Nagpur University** |
| | | 3 | 2 | - |
| | **TOTAL** | **3** | **2** | **-** |

| IV. PROFESSIONAL ABILITY ENHANCEMENT COURSES | | | | |
|---|---|---|---|---|
| A. PROFESSIONAL ABILITY ENHANCEMENT COMPULSORY COURSES | | 1<br>Pune | 2<br>RTU, Kota | 3<br>Nagpur University |
| 43 | Professional Practice | 3 | 2 | 5 |
| 44 | Internship or Practical Training | 14 | 12 | 15 |
| 45 | Project Management | 3 | - | - |
| 46 | Dissertation or Seminar or Research Methodology | 4 | 6 | 3 |
| | **TOTAL** | **24** | **20** | **23** |
| **V.SKILL ENHANCEMENT COURSES** | | **1**<br>**Pune** | **2**<br>**RTU, Kota** | **3**<br>**Nagpur University** |
| 47 | Communication Skills | 2 | | |
| 48 | Computer Studio | - | 10 | 4 |
| 49 | Building Information Modelling | - | - | 2 |
| 50 | Digital Graphics and Art | - | - | - |
| 51 | Entrepreneurship Skills for Architects | 3 | - | - |
| 52 | Foreign Language | - | - | - |
| | **TOTAL** | **5** | **10** | **6** |

## Table 4.244: Private Institutions: Curriculum percentage distribution Analysis

| **Private Institutions (Affiliated to Public University)** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Sr. No** | **Description** | **COA Regulations** | | **Case 1** | | **Case 2** | | **Case 3** | |
| | | **Recommended percentage** | **Credits** | **Actual Percentage** | **Credits** | **Actual Percentage** | **Credits** | **Actual Percentage** | **Credits** |
| 1. | P.C. | 50% | 130-150 | 55.42 % | 138 | 52.77% | 124 | 53.79% | 149 |
| 2. | BS & AE | 20% | 52-60 | 27.31 % | 68 | 25.53% | 60 | 27.08% | 75 |
| 3. | PE | 10% | 26-30 | 4.42% | 11 | 8.09% | 19 | 8.66% | 24 |
| 4. | OE | 5% | 13-15 | 1.20% | 3 | 0.85% | 2 | 0.00% | 0 |
| 5. | PAECC | 10% | 26-30 | 9.64% | 24 | 8.51% | 20 | 8.30% | 23 |
| 6. | SEC | 5% | 13-15 | 2.01% | 5 | 4.25% | 10 | 2.17% | 6 |
| | **Total** | 100% | 260-300 | 100% | 249 | 100% | 235 | 100% | 277 |

**Figure 4.236: Private Institutions: Curriculum percentage distribution Analysis**




**Findings:**

i. Total number of credits are marginally low in Case number 1 & 2 in comparison to the CoA prescribed range of 260 to 300.

ii. In case of Professional Core Subjects (PC) , all cases are within the recommended percentage range by CoA.

iii. As far as Building Sciences and Applied Engineering (BS & AE) is concerned, all the cases are at least 5% above the recommended percentage range by CoA.

iv. In case of Professional Electives (PE), Case 2 & 3 are marginally low (2%) However Case 1 is exceptionally low by 5%. This clearly indicates that flexibility for selection of Electives, where individual student's choice matters, is restricted and the tendency is to provide compulsory subjects.

v. All are offering very less number and credits in Open Electives. (OE). Case 3 is offering no OE.

vi. The percentage range for Professional Ability Enhancement Compulsory Courses (PEECC), are marginally low when compared with the prescribed range of CoA. Project Management is not offered by Case 2 & 3.

vii. Overall, less focus is observed in Skill Enhancement Courses (SEC) as compared to the CoA recommended range. The subjects like Communication Skill, Building Information Modelling (BIM), Digital Graphics and Arts, Foreign Language are more or less ignored.

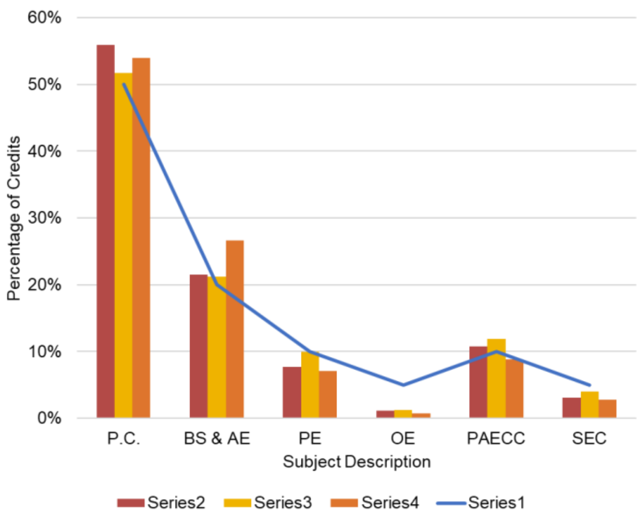
viii. In BS & AE subjects, Applied Mechanics & Environmental Lab are by and large not covered.

ix. In case of PE, majority do not offer Art Appreciation, Green Building and rating systems & Building system Integration and Management.

x. Certain Subjects from the list of PE are in the list of compulsory subjects.

**4.10.4 FINAL OBSERVATIONS:**

**Figure 4.237: Cumulative Curriculum percentage distribution Analysis**




i. Total number of Credits provided by the selected cases are by and large within the prescribed range of CoA with few exceptions.

ii. In case of Professional Core Subjects (PC), all cases are within the recommended percentage range by CoA. With few cases providing more emphasis on this group of subjects.

iii. As far as Building Sciences and Applied Engineering (BS & AE) is concerned, Except for one, majority of the cases are at least 5% above the recommended percentage range by CoA. In BS & AE subjects, Environmental Lab and Acoustics, though considered compulsory, are by and large not covered as independent subjects.

iv. In case of Professional Electives (PE), majority of the cases are up to 5% low. Also, there is a general tendency to convert the subjects from PE basket to PC basket, reducing the flexibility for selection of Electives, where individual student's choice matters.

In case of PE basket, majority of the case studies do not offer Green Building and rating systems, Building system Integration and Management, Appropriate Building Technologies, Earthquake Resistant Architecture, Disaster Mitigation and Management & Building Performance and Compliance.

v. Open Electives (OE), which are expected to provide exposure to students in the areas other than their core study area are by and large ignored by majority of the Institutions in the case studies.

vi. Though Professional Ability Enhancement Compulsory Courses (PEECC), are recommended as compulsory courses by CoA, majority of the Institutions in case studies are not offering Project Management as independent subject.

vii. The Skill Enhancement Courses (SEC) are not considered seriously by majority of the cases studied. Subjects like Communication Skill, Building Information Modelling (BIM), Digital Graphics and Arts, Entrepreneurship Skills for Architects & Foreign Language though important, are not offered by many.

## 4.11 Comparative Analysis of Architecture Curricula at Five Prominent Universities Worldwide: Frameworks, Approaches, and Innovations

### 4.11.1 Introduction:

Architecture education has undergone a profound transformation in response to the complex demands of the 21st century. Modern curricula are being reshaped to incorporate sustainable practices, leverage technological advancements, and adopt multidisciplinary approaches that extend the boundaries of traditional design thinking. Hence it is considered important to understand the global trends in Architecture Education through comparative analysis of undergraduate architecture programs at five globally recognized institutions:

The Massachusetts Institute of Technology (MIT) in the United States, The Bartlett School of Architecture at University College London (UCL) in the United Kingdom, Delft University of Technology (TU Delft) in the Netherlands, ETH Zurich – Swiss Federal Institute of Technology in Switzerland, and Tsinghua University in China.

By evaluating key aspects such as curriculum structure, pedagogical models, research emphasis, and regional influences, the analysis reveals both converging trends and distinctive approaches across the institutions. While all five programs cultivate core competencies in design, history, and building technology, their divergence lies in the degrees of technical integration, cultural responsiveness, and innovation strategies.

The primary objective is to identify similarities and divergences in their educational structures, examine how each program addresses current architectural challenges, and to understand a basis for developing adaptable, globally relevant curricular frameworks.

i. **Curriculum Review**

Primary data were gathered from official university catalogues, academic syllabi, departmental brochures, and institutional websites. These sources provided detailed descriptions of degree requirements, course content, credit allocations, and pedagogical emphases.

ii. **Thematic Classification**

The components of each curriculum were categorized into five thematic areas:
Design Studios, History and Theory, Building Technology, Research Integration & Interdisciplinary learning.

iii. **Performance Metrics**

Evaluation criteria included academic flexibility, research involvement, international outreach, technological integration, and sustainability emphasis.

iv. **Comparative Framework**

A matrix-based comparison allowed for cross-institutional analysis, revealing shared values, divergent practices, and innovative pedagogical approaches.

This methodology enabled a systematic and objective evaluation of curricula, ensuring that the analysis remains grounded in verifiable data and consistently applied criteria.

**4.11.2 Comparative Curriculum Profiles:**

**A. Massachusetts Institute of Technology (MIT), USA**

i. **Degree Offered**: Bachelor of Science in Architecture (BSc)
ii. **Program Duration**: 4 years
iii. **Key Emphases**: Technological innovation, computational design, Interdisciplinary Research

iv. **Curriculum Highlights :** The MIT architecture curriculum is anchored in rigorous design studios that emphasize conceptual clarity, technical precision, and computational creativity. The integration of emerging technologies such as machine learning, digital fabrication, and AI-enhanced spatial modelling distinguishes MIT's pedagogical approach. Historical and theoretical studies span global architectural traditions, fostering critical thinking and contextual awareness.

v. **Unique Features**

- Collaborative opportunities with the Media Lab and Centre for Advanced Urbanism
- Strong emphasis on environmental performance and material experimentation
- Curriculum structured to encourage both creative freedom and scientific inquiry

**B. The Bartlett School of Architecture, UCL, UK**

i. **Degree Offered:** Bachelor of Science in Architecture (B.Sc.)

ii. **Program Duration:** 3 years

iii. **Key Emphases:** Experimental design, speculative thinking, material Innovation

iv. **Curriculum Highlights:** The Bartlett program prioritizes exploratory studio work, encouraging students to challenge conventions and speculate on the future of architecture. It offers a rich integration of computational tools, material experimentation, and interdisciplinary collaborations. Theoretical components foster critical reflection on architectural practice within socio-political and cultural contexts.

v. **Unique Features**

- Emphasis on radical experimentation and speculative practices
- Diverse studio units offering thematic specialization
- International design workshops and exhibition opportunities

C. **Delft University of Technology (TU Delft), Netherlands**

i. **Degree Offered**: BSc in Architecture, Urbanism, and Building Sciences

ii. **Program Duration**: 3 years

iii. **Key Emphases**: Sustainable urban design, environmental technology, infrastructure planning

iv. **Curriculum Highlights:** TU Delft's program adopts a science-based architectural education model. Courses blend theoretical understanding with quantitative analysis of structural and environmental systems. Urbanism is a core area, with an emphasis on sustainable strategies and systems thinking. Studio projects often integrate real-world data and stakeholder perspectives.

v. **Unique Features**

- Strong focus on environmental simulation tools
- Urban design integrated with civil infrastructure and transportation planning
- High research activity and publication engagement by faculty and students

D. **`ETH Zurich – Swiss Federal Institute of Technology, Switzerland**

i. **Degree Offered**: Bachelor of Science in Architecture (BSc)

ii. **Program Duration**: 3 years

iii. **Key Emphases**: Structural precision, engineering integration, European design traditions

iv. **Curriculum Highlights**: ETH Zurich is recognized for its methodical approach to architectural design, heavily grounded in engineering and physical sciences. The curriculum emphasizes structural integrity, material behaviour, and the historical evolution of European architecture. Computational design is used primarily for optimization and technical prototyping.

v. **Unique Features**

- Highly integrated with structural and civil engineering departments
- Emphasis on tectonics and construction logic
- Curriculum reflects a balance between tradition and innovation

**E. Tsinghua University, China**

i. **Degree Offered**: Bachelor of Architecture (BArch)

ii. **Program Duration**: 5 years

iii. **Key Emphases**: Cultural heritage, modern urbanization, regional responsiveness

iv. **Curriculum Highlights**: Tsinghua's five-year professional program provides a comprehensive architectural education grounded in Chinese traditions and global innovation. Courses emphasize the challenges of large-scale urban development, cultural preservation, and rapid technological adaptation. The program includes international partnerships and design exchange programs.

v. **Unique Features**

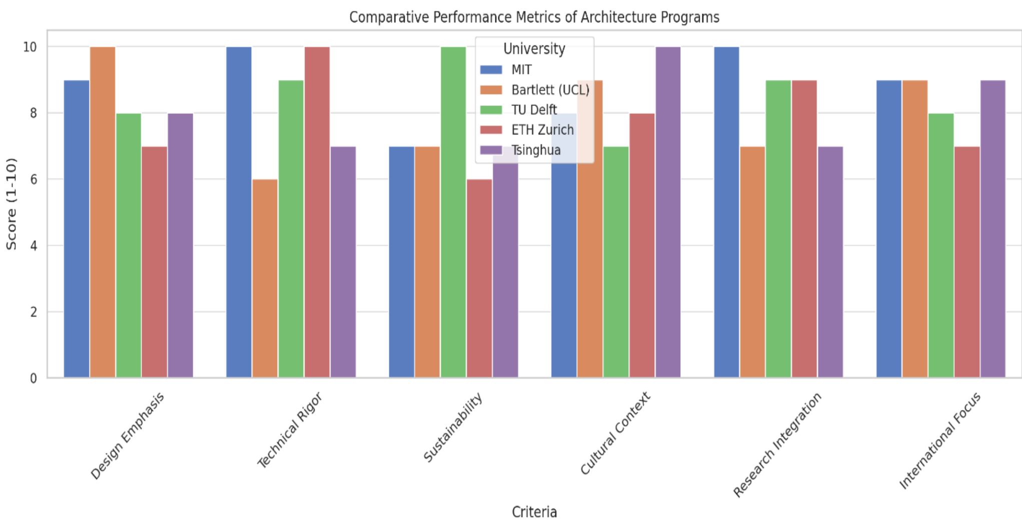
- Integration of traditional Chinese architectural principles with contemporary design
- Strong institutional ties with government agencies and urban developers
- Dedicated tracks for urban regeneration and regional planning

### 4.11.3 Comparative Summary:

**Table 4.245: Comparative Summary: World Universities**

| Sr. No. | University | Design Emphasis | Technical Rigor | Sustainability | Cultural Context | Research Integration | International Focus |
|---|---|---|---|---|---|---|---|
| 1 | MIT | Computational + Conceptual | High | Moderate | Global | Very High | Strong |
| 2 | Bartlett (UCL) | Experimental + Speculative | Moderate | Moderate | Global + Critical | Moderate | Strong |
| 3 | TU Delft | Urbanism + Sustainability | High | Very High | European | High | Moderate |
| 4 | ETH Zurich | Structural + Analytical | Very High | Moderate | European | High | Moderate |
| 5 | Tsinghua | Cultural + Urban Response | Moderate | Moderate | Chinese | Moderate | High |

**Figure 4.238: Comparative Performance Matrix: World Universities**




**Comparative bar chart** visualizing six key dimensions across the five architecture programs based on Design Emphasis, Technical Rigor, Sustainability, Cultural Context, Research Integration and International Focus.

#### 4.11.3.1 Key Insights:

i. **MIT** and **ETH Zurich** lead in **technical rigor** and **research integration**.

ii. **Bartlett (UCL)** scores highest in **experimental design and cultural critique**.

iii. **TU Delft** stands out in **sustainability** and urban systems.

iv. **Tsinghua** excels in **cultural contextualization** and has strong **international outreach**.

### 4.11.4 Inference

The comparative analysis underscores the rich diversity of approaches in architecture education across leading global institutions. While foundational competencies such as design thinking, historical awareness, and building technology are shared, the nuances lie in how each program leverages regional expertise, addresses global challenges, and integrates technological advances. MIT and ETH Zurich exemplify research-driven, technologically rigorous models. Bartlett and TU Delft highlight innovation through experimentation and sustainability. Tsinghua offers a model grounded in cultural continuity and rapid urban evolution.

The findings suggest that fostering deeper international collaboration and curriculum sharing can further enrich architectural education, creating pathways for students to navigate a rapidly transforming built environment with creativity, resilience, and cultural sensitivity.

## 4.12 NEP 2020: A Comparative Review of AICTE and UGC Guidelines

### 4.12.1 Introduction

The *National Education Policy (NEP) 2020* marked a significant paradigm shift in India's approach to education. Aimed at making the system more holistic, flexible, multidisciplinary, and aligned with the needs of the 21st century, the policy necessitated extensive reforms across all levels of education. Architecture education, though in principal considered to be covered under National Education Policy, Council of Architecture, till the writing of this report, has not yet released the final guidelines for the same. Though it is in the process of formulating the same, which is evident from the various initiatives which it has taken in terms of organising various conferences and seminars organised by it on NEP and Future of Architecture Education at various places across India in last two years. However, two apex regulatory bodies — the **All India Council for Technical Education (AICTE)** and the **University Grants Commission (UGC)** — have completed the task of translating NEP 2020's vision into actionable reforms within their respective domains. Hence it is considered worthwhile to study and compare their recommendations so as to develop insight in the domain of Architecture Education.

While AICTE governs professional and technical education, UGC oversees general higher education. Despite this bifurcation, both institutions share common objectives: enhancing educational quality, enabling learner autonomy, and fostering innovation.

### 4.12.2 Common NEP 2020-Aligned Directives: UGC and AICTE

i. **Multidisciplinary Education**

A cornerstone of NEP 2020 is the removal of rigid disciplinary silos. Both AICTE and UGC have emphasized the implementation of multidisciplinary approaches by encouraging institutions to offer cross-disciplinary courses and allow students to pursue electives outside their core area of study. The integration of arts with sciences or technical fields with humanities fosters well-rounded education and creativity — key traits for future employability and citizenship.

*Example*: Engineering programs are now encouraged to integrate courses in philosophy, ethics, and communication, while arts students may opt for technical modules such as data analytics or design thinking. This aligns with NEP's emphasis on holistic development and lifelong learning.

**ii. Flexible Curriculum and Credit System**

The shift from rigid, uniform curricula to a **Choice-Based Credit System (CBCS)** allows for a personalized learning path. Both bodies now mandate flexibility in course selection, modular courses, and the inclusion of soft skills and vocational components. This approach enhances student engagement and relevance of education to real-world contexts.

**iii. Academic Bank of Credits (ABC)**

The **Academic Bank of Credits** is a digital framework that allows students to earn, accumulate, and transfer credits across institutions, ensuring educational mobility. Both UGC and AICTE have adopted this system to promote inter-institutional learning.

**iv. Technology-Driven Education**

In response to NEP's emphasis on digital learning, UGC and AICTE advocate the use of platforms such as **SWAYAM**, **National Digital Library**, and **Virtual Labs**. They also support the establishment of the **National Educational Technology Forum (NETF)** to guide digital transformation across institutions.

v. **Multiple Entry and Exit Options**

Both regulators have endorsed a **multi-entry, multi-exit system**, allowing students to pause and resume education based on their needs:

- Exit after 1 year – Certificate
- Exit after 2 years – U.G. Diploma
- Exit after 3 years – Bachelor's degree
- Exit after 4 years – Honours/Research degree

This caters to non-linear academic journeys, increasing inclusivity and flexibility.

### 4.12.3 AICTE-Specific Initiatives under NEP 2020

i. **Technical Curriculum Modernization**

AICTE's initiatives include the incorporation of emerging technologies such as **AI, ML, Data Science, Cyber security**, and **IoT** into curricula. It promotes **industry-aligned education**, encouraging real-world problem-solving through case studies, projects, and internships.

ii. **Model Curriculum and OBE**

The AICTE's *Model Curriculum for Engineering and Management* programs integrates **Outcome-Based Education (OBE)** principles, ensuring alignment with global accreditation standards like NBA and Washington Accord.

iii. **Faculty Development and ATAL**

The **AICTE Training and Learning (ATAL) Academy** provides structured training for educators in pedagogy and technology, fostering continuous professional development.

iv. **Internships and Industry Collaboration**

AICTE mandates internships for all technical students, advocating partnerships with local industries to ensure application-oriented learning and employability.

v. **Start-up and Innovation Ecosystem**

Through initiatives like **Institution Innovation Councils (IICs)** and **Research Parks**, AICTE supports student-led startups, promoting an entrepreneurial culture within engineering institutions.

vi. **Provision for `Minors' and `Honours with Specialisation'**

Undergraduate programs in Engineering and Technology are encouraged to offer electives and specializations in emerging, multidisciplinary, and region-specific fields, as outlined in the AICTE Approval Process Handbook. These may be pursued within the same department, with students earning an additional 18–20 credits—potentially including credits via SWAYAM—to qualify for a specialization. The degree certificate will reflect this, e.g., *B.E./B.Tech. (Hons.) in Computer Science and Engineering with specialization in Cyber Security*.

Institutions may also offer minors across disciplines. Students can opt for a minor in another field by completing 18–20 additional credits beyond the standard 160-credit program. AICTE approval is not required for offering Honours or Minor degrees, provided the credit requirements are met.

### 4.12.4 UGC-Specific Guidelines Aligned with NEP 2020

i. **Curriculum and Credit Framework (CCFUP)**

UGC introduced the **Curriculum and Credit Framework for Undergraduate Programs (CCFUP)** to offer more flexible degree pathways and integrate skills, research, and employability.

ii. **Skill-Based Learning and Micro-Credentials**

UGC encourages short-term, industry-recognized courses with digital badges and **micro-credentials** that stack toward larger qualifications.

iii. **Environmental Education**

To instil environmental consciousness, UGC has mandated the inclusion of sustainability and climate literacy in undergraduate programs.

### iv. Internationalization

UGC has laid out guidelines for **Twinning and Dual-Degree programs** with foreign universities, and is facilitating the entry of global institutions into India through the GIFT City initiative.

### v. NRF and Research Ecosystem

With the proposed establishment of the **National Research Foundation (NRF)**, UGC aims to fund high-impact interdisciplinary research in priority sectors, including STEM and humanities.

### vi. Institutional Autonomy

Through graded autonomy, UGC enables institutions to self-govern their curricula, admissions, and academic collaborations, enhancing agility and innovation.

### 4.12.5 Comparative Summary of AICTE vs. UGC NEP 2020 Guidelines

**Table 4.246: Comparative Summary of AICTE & UGC Guidelines**

| Sr.No. | Focus Area | AICTE | UGC |
|---|---|---|---|
| 1. | Domain | Technical/Professional Education | General Higher Education |
| 2. | Core Emphasis | Skill Development, Industry Readiness | Multidisciplinary, Global Exposure |
| 3. | Curriculum | Model Curriculum, Emerging Tech | CCFUP, Interdisciplinary Subjects |
| 4. | Pedagogy | Outcome-Based, Internships, Projects | CBCS, Skill-based, Environmental Literacy |
| 5. | Research | Innovation Cells, Startup Incubation | NRF, Research Clusters, Grants |
| 6. | Globalization | NA (limited to MoUs) | Dual Degrees, International Campuses |

### 4.12.6 Inference

The coordinated yet differentiated implementation of NEP 2020 by AICTE and UGC reflects the evolving needs of India's diverse higher education system. While AICTE drives technological innovation and vocational preparedness, UGC advances academic flexibility and global outreach. Together, these reforms are paving the way for a robust, learner-centric, and globally competitive educational framework.

## 4.13 Final Conclusion

The comprehensive investigation into architectural education in India—spanning stakeholder responses, qualitative and quantitative analyses, curricular comparisons, and policy reviews—reveals a consistent and urgent call for transformative reform. While the existing curriculum provides a foundational academic structure, it is increasingly perceived as misaligned with the dynamic needs of the profession, rapid technological advancements, and the socio-environmental challenges of the built environment.

The triangulation of feedback from students, faculty, and industry professionals presents a cohesive narrative: the current system, though well-intentioned and partially compliant with regulatory standards, remains constrained by outdated pedagogies, limited flexibility, insufficient technological integration, and a lack of real-world preparedness. Students seek greater exposure to contemporary tools, interdisciplinary learning, and practical experience. Faculty echo these sentiments, pointing to structural limitations and resource gaps. Industry stakeholders reinforce these concerns, emphasizing the skills mismatch and advocating for closer academia-industry collaboration.

Empirical evidence from hypothesis testing reinforces these perspectives, statistically validating the need for curriculum revision across key dimensions—alignment with professional demands, adaptability to emerging trends, adequacy of practical training, technological readiness, and responsiveness to the National Education Policy (NEP) 2020.

Comparative analyses—both domestic and international—highlight how leading global institutions have successfully embedded innovation, sustainability, and contextual relevance into their architectural programs. In contrast, Indian institutions, though formally compliant with Council of Architecture norms, often fall short in spirit—particularly in offering electives, fostering multidisciplinary integration, and enhancing skill-based learning.

In conclusion, a unified, future-oriented strategy for architectural education in India must prioritize Curricular flexibility to accommodate emerging technologies and evolving societal needs, Technological integration through infrastructure and faculty training, Interdisciplinary and elective offerings that promote student agency and specialization, Strengthened industry-academia linkages to ensure professional readiness, and Policy alignment with the transformative vision of NEP 2020.

Realizing this vision will require coordinated efforts among the Council of Architecture, educational institutions, industry stakeholders, and policymakers. Only through such collaboration can India nurture a new generation of architects—innovative, resilient, contextually grounded, and globally competent—ready to shape the built environment of the future.

# CHAPTER-5

# FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction:

It is important to know that how the architecture curriculum in India is designed as the future professionals who design and build the nation's infrastructure will be resulting from the same. With the rapid advancement of technology, changing industry demands, and evolving societal needs, it is worthwhile to examine the extent to which the existing curriculum is relevant to contemporary practice in architecture. This chapter discusses the findings from an extensive study conducted through 500 students, 250 faculty members and 160 industry representatives. These insights reflect the strengths, gaps, and areas for improvement in the current curriculum. This chapter synthesizes the afore-mentioned findings and draws consequential conclusions and strategic recommendations for making architecture education in India responsive, efficient and resilient.

## 5.2 Findings:

Following are the major findings of the study:

i. A balanced mix of experience levels is evident in the age distribution among surveyed faculty members, industry representatives, and students, which makes for a well-rounded viewpoint. The faculty consists of early-career, mid-career, and senior teachers with balanced academic and professional relevance. Most industry representatives are mid-to-senior level, adding their expert knowledge to the study. While the students and young professionals combining represent a sizable sample, providing new ideas with moderate experienced ones. With this well-rounded distribution, the study benefits from knowledge across all career stages — melding advanced learnings with on-field experience.

ii. Analysis of the student, industry representatives, and faculty members gender distribution indicates a significant disparity, with male respondents constituting the majority of all groups. It comes as the number of men at school still outweighs women in the field, showing a worrying trend towards male domination in architecture. The same trend appears in the industry, where men make up a bigger part of the workforce, which is similar to workforce patterns in general. Faculty representation is still disproportionately male, but female faculty often provide a unique perspective. These results highlight the crucial need for more work to be done to improve gender balance and parity in architectural education and practice.

iii. The educational and professional backgrounds of the faculty, industry representatives, and students speak to a robust foundation in architecture. The faculty are highly qualified professionals, and the curriculum offers a well-balanced foundation that promotes academic rigor. Most workers in the industry have undergraduate degrees, while a few hold master's degrees or doctorates, emphasizing an application-oriented and experienced workforce as opposed to an academic and theory-informed workforce. It is also made sure to mix in final-year undergraduates and recent graduates so that there is a balanced perspective between what the students have been prepared for during their degree studies versus what they are actually meeting in the industry after graduation. In this way, this distribution adds strength to the study by bringing together the voices of educators, industry, and emergent architects.

iv. This can be attributed to the diversity of respondents found within academia and firms alike. A good mix of students from private, government and autonomous institutions gives you a good idea of the differences in curriculum structure, teaching methodologies and exposure to the industry. Faculty members also hail from a wide variety of institutions, ensuring different academic frameworks and resources are represented in the study.

The membership of architects and building design professionals in the industry is diverse, with a substantial portion coming from private architectural companies, real estate developers, government agencies and independent consultants. Such a mixed group of researchers working on architectural education and practice, from differing educational and professional backgrounds, strengthens the work and enables new insights.

v. Attesting are the years of experience among both faculty and their industry respondents, as the makeup is a healthy blend of early, mid, and senior-career professionals, ensuring a well-rounded perspective on the findings. Our voices come from all corners of the industry; from junior hires to industry leaders, they all provide insight into changing industry needs and demands. Likewise, the professors represent a mix of new voices as well as seasoned scholars, balancing the most modern trends in education with more long-standing educational ethos. This diversity adds to the breadth of the study by incorporating perspectives from various stages of professionals, which can contribute to a more holistic discussion on curriculum efficacy and industry relevance.

vi. Responses provided by students, faculty, and industry professionals indicate a disconnect between architectural education and industry standards. A significant proportion of both students and faculty members realize that the curriculum provides graduates with many relevant skills, but many of them also feel that the curriculum is not applied enough. In the same vein, while many grads do have the requisite technical abilities, a large number of industry reps also feel there is work to be done. Also, the diverse opinions amongst all the groups indicate a dire requirement of curriculum upgrades, with more input from industry in academia, and where real-life design challenges can be implemented practically.

vii. These survey findings indicate a sharp contrast in opinions when it comes to reading practical exposure as adequate in the architecture curriculum. While some relevant educational stakeholders (students, faculty, and industry representatives) acknowledge the actual inclusion of practical elements, others see this as far from sufficient. Many students thus believe that the syllabus does not have real-world application, and while the faculty members show mixed responses, some suggest a stronger balance between theory and practical learning. In addition, experts describe deficiencies as prime cause in a struggle to keep the student side of the job readiness. Off-course — the gap between experience and what employers require in the profession — as well as the need in a post-pandemic world for improved building design and better use of space is evident. These findings further emphasize the importance of delivering more experiential learning, industry engagement, and practical training to prepare architecture graduates for professional practice.

viii. The results of the survey indicate significant deficiencies in the architecture curriculum, especially regarding a suitable balance between theory and practice, inclusion of professional ethics, and industry needs alignment. While the curriculum captures the theoretical aspects, students voice a desire for more coverage, experience and interaction in the real world, and more involvement of external stakeholders in their courses. While most faculty believe professional ethics is adequately addressed, many feel this area and legal knowledge needs to be bolstered. Industry representatives are equally divided on whether graduates are sufficient prepared to meet professional challenges, with almost half believing that existing curriculum insufficiently prepares students for relevant industry skills. These findings highlight the need for curriculum reform that incorporates experiential learning, ethics training, and increased industry alignment to better prepare architecture graduates for professional practice.

ix. Based on the survey, the input indicates that the integration of professional ethics, industry involved in curriculum development and better balance of theoretical knowledge and practical application is in higher priority by architecture students as well as a concern about components in curriculum change. Students believe the curriculum is lacking in legal and ethical aspects of the technology and these are discussions that the industry should lead and serve as case studies. There is a divide where faculty see industry partnerships in a more uphill battle, as they may prefer to opt for more academic engagement first, suggesting that there should ideally be a more formalized partnership between industry and academia. A disconnect between the theoretical knowledge students receive and the skills needed by employees is widely recognized within the industry, though others argue that the curriculum prepares students well for a professional career. Some respondents are neutral, indicating an opportunity to build greater practical experience and industry exposure. These findings suggest a need to enhance the curriculum to include more emphasis on real-life applications, ethical practice and engagement with the working world.

x. Industry has a mixed track record when it comes to academic training, with some students saying course authors are helpful, and others saying there wasn't enough collaboration. Students said that more involvement, through guest lectures, workshops, mentorship programs and live projects, would help bridge the discrepancy between classroom learning — often said to be theoretical — and industry experience. Likewise, faculty responses demonstrate a divided perspective on the regular incorporation of course content to reflect evolving industry trends, with some emphasizing the necessity of this practice while others revealing implementation gaps. This indicates the demand for a more systematic process to accommodate contemporary evolution within the architectural course syllabus. Within industry perception varies if new graduates are trained adequately to handle project workflows and manage stakeholder expectations. Some professionals think that students have what it takes, while others argue that many students are out of touch with the job market, emphasizing the need to strengthen the curriculum to provide practical training that equips graduates with what they need for the actual market.

xi. Fewer than half of faculty members are confident that the curriculum is routinely updated to stay in sync with advances outside the classroom, and a comparable number voice angst over stale material. It reflects the demand system that should be implemented in academia to meet industry demands and standards and to adapt to the needs of changing technology. Overall, faculty feel that sustainability, smart cities, and digital architecture themes are somewhat integrated into the syllabus, but over half of respondents agreed that they could be more successfully integrated into the syllabus. The questions linger — and some faculty members are ambivalent about how much to integrate A.I. into their courses — mirroring a wider lack of clarity in many industries about how, and when, to embrace the technology. On the contrary, industry people have different views on the understanding of sustainability in architecture education. Although there are some who note that their training has been adequate in this regard, many others raise concerns about gaps in sustainability education. The large percentage of neutral responses also indicates that sustainable guides are not sufficiently integrated into architectural education and curricula.

xii. They are not able to cover much emerging trends in architecture like: sustainability and smart cities much. Although some feel these issues are adequately covered, many others see a void and call for a curriculum embracing a more accurate representation of modern strides in the world of architecture. Faculty responses also reflect mixed views on the extent to which classroom learning prepares students for work in practice. Some people feel that it makes the entire transition; however, others claim that it is not sufficient and that they should do a lot of curriculum work in this regard so that the concept is matched in practice. Interviewing industry professionals brought home this disparity, especially when new paradigms such as smart cities, parametric design and computational architecture are discussed. A significant portion of industry practitioners finds these subjects are inadequately addressed, while a segment finds it unclear whether the topics are taught in architecture education. These research results demonstrate the need for curriculum advancement in order to enhance the availability of the students with current and up to date information that progresses according to the industry changes.

xiii. Transition from research and education to professional practice seems challenging, many students had trouble transferring theoretical knowledge smoothly to skills. It may be seamless for some, but not for all — which shows that academia does need to catch up a little more in effectively linking knowledge with industry exposure and training (and feedback loops). Faculty reflections also suggest a lack of agreement around the extent to which the undergraduate curriculum meets employer expectations. Although many faculty members think it matches the industry, a significant number are disagreeing, highlighting the need for ongoing updates and a tighter bond with the architectural community to make sure that students are adequately prepared for roles in the field. Industry opinion reconfirms these apprehensions where wide-ranging – even polarized – opinions exist on the extent to which contemporary global best practice is embedded in architectural pedagogies. Despite a general belief that international standards are well integrated into institutions, a significant portion see room for improvement, while even more remain uncertain indicating that integration may not be consistent across institutions. These results strengthen the argument for curriculum development to fill the gaps between school, the industry expectations, and international architectural approaches.

xiv. Breakdown of the survey results shows a split opinion on the degree to which the skills students acquire match what employers desire in their new workers. Almost half of those surveyed feel their education has provided them with the skills demanded by industry, however a notable percentage are unsatisfied, which could highlight a potential gap between the two sectors. Further reflections by faculty underscore this problem, with some claiming students gain hands-on experience with projects in the real world, while other faculty members disagree, suggesting inconsistencies across institutional boundaries. Many faculty members remain agnostic, noting variation in opportunities for practical experience. From the industry's perspective, opinions are equally divided on if students receive enough real-world exposure throughout their studies. Although some professionals believe that practical training is well-embedded in academics, many think that graduates still lack skills aligned with industry needs. This highlights the importance of a strong industry-academia partnership through internships, live projects, and site visits, which can help students blend theory with practice and prepare them for the job market.

xv. The survey outcome reflects the mixed perception regarding the collaboration between industry and Academia in architectural education. Many students generally agree that guest lectures from industry professionals and workshops linked to industry topics help bridge the gap between their academic learning and industry practice, with a minority not being convinced, highlighting where industry professionals could better engage with students in the areas of content, timing, and relevance. As the recent Faculty Engagement Survey indicates, there are divided opinions toward the involvement of industry in student training programs, with many faculty members expressing dissatisfaction with their institution's approach. Responses varied, indicating a difference in the efforts made by various institutions around collaborative approaches in structured internship programs, partnerships with architectural firms, and greater involvement of industry in academic activities. Similarly, industry experts articulated opposing perspectives on whether institutions consistently solicit their input in curriculum development, with roughly equal swathes of respondents agreeing and disagreeing. This highlights the need for more structured engagement via advisory councils, curriculum reviews, guest lectures, and industry sponsored workshops. By reinforcing these initiatives, we can guarantee that architectural education keeps pace, is responsive to industry needs, and in line with forging technological breakthroughs.

xvi. The survey results show a general agreement between the students and faculty that the architecture curriculum gives some freedoms in elective choices, but also more than a few being unsatisfied with it. This makes us understand that there are some institutions that have adjusted their programs but still have the potential to improve while others are trying to catch up. Responses from faculty further highlights the need for more elective courses, more interdisciplinary options, and a better alignment between elective courses and what students hope to do upon leaving to better prepare students for jobs in industry. Similarly, teachers in industry view the curriculum as responsive to the industry, but opinions are divided, with many indicating that rigid structures limit exposure to trends such as parametric design, AI integration, and sustainability practices. These results highlights the significance of reinforcing curriculum revision systems, broadening optional offerings and establishing industry partnerships to make architectural education agile and engaging.

xvii. The survey points out a chasm in perceptions of whether what appears to be innovation and experimentation in architectural education is actually helpful or harmful. Although most students feel that the curriculum encourages creativity, a considerable minority think that it limits their creative expression, indicating the need for a more dynamic and malleable educational framework. Responses from faculty members were similarly mixed, with some feeling emboldened to change their approaches to teaching and learning while others are up against institutional constraints, underscoring the need for an academic culture which supports pedagogical innovation. The lack of integration of emerging technologies like AI-aided design, digital fabrication, and generative architecture within academic programs is stark from the industry's side. Many answers believed these innovations are underemphasized leaving academic curricula lagging behind industry. Filling this gap involves proactive curriculum updates, deeper industry collaboration, and practical experience with advanced architectural solutions."

xviii. Overall, the study illustrates the polarised views of whether progressive elements of the profession are reflected within architectural education. Though many of the students say that the curriculum has been updated, a considerable amount believe out of date concepts remain, suggesting that there is still work to be done. Responses from faculty indicate that emerging fields of study have redefined curricula to address needs within fields such as AI in architecture, parametric design, and sustainability, although implementation and exposure gaps exist. Likewise, industry perspectives highlight conflicting priorities on interdisciplinary learning, especially in business and entrepreneurship. Some respondents feel that whatever exposure to business management and project finance provided in their architectural education is sufficient, while others see a gap in training in these areas. Understanding these factors highlights the necessity of ongoing curriculum improvements, collaborations with industry, and targeted workshops aimed at providing students with technical as well as business skills.

xix. One of the highlights here on the rigidity of the architecture curricula, most students feel that they cannot pursue interdisciplinary studies, another significant subset disagrees, implying that experiences across institutions vary. According to faculty, such rigidly cross worded structures pose challenges to interdisciplinary exposure, though some still feel the curriculum allows for cross-disciplinary learning. At the same time, industry insiders point to an unfortunate gap between what academic programs produce and what practitioners deem necessary, with many feeling that their participation in curriculum design is lacking. They highlight the importance of enhancing curricular flexibility, strengthening collaboration between academia and industry, and providing more interdisciplinary opportunities to equip students for changing industry dynamics.

xx. The survey results suggest that, while many students report feeling supported in their independent research and project-based learning opportunities, more engagement initiatives are likely needed in these areas. Responses from faculty indicate some divide: while several address how well we now reflect global architectural movements in our curricula, others lament that there is still much to be done to encompass recent developments. There are varied opinions from the industry regarding how well the graduates will adapt to changes in trends, with almost half of industry experts believing that graduates are not adequately prepared. Such insights highlight the need for ongoing curriculum reform, increased experiential learning opportunities, and closer alignment between pedagogical preparation and professional market expectations, as graduates grapple with rapidly changing work environments and an evolving architectural landscape.

xxi. While the survey shows, on the whole, a great desire amongst students for professors to incorporate the latest architectural trends into their teaching, a quarter felt that these developments are not sufficiently addressed, again raising the need for an ongoing responsiveness in education. Faculty responses demonstrate overarching agreement of the centrality of research-driven learning, but yet an appreciable minority contend that research opportunities are not consistently emphasized, and there is an essential call for stronger institutional support for research-based pedagogy. Others believe that while the curriculum instils innovation and adaptability in design thinking, the teaching methodology is absolutely stagnant and students should have wider exposure to updated methodology and trends in the industry, in order to prepare for the ever-changing context of modern architecture.

xxii. Even though most respondents perceived that they can participate in competitions and design challenges, a large minority felt that such opportunities were lacking access and eliminating inclusivity which signals that a broader scope is needed. Responses indicate a fairly even split between those who feel the curriculum permits room for creative experimentation, suggesting that while some scope exists, certain rigid structures remain in place which stifle initiative and innovative screening. According to some voices from the industry, the integration of contemporary movements in the global architectural sphere is not as strong in the curriculum as contemporary practices, with others noting that there needs to be a concerted effort to ensure that students remain competitive at an international level.

xxiii. The results reflect a split view concerning international architecture best practices being implemented in the education of students, as almost half of the students and faculty members respond positively whilst a substantial share of them reject that international standards are being met, thus imbuing the curriculum with global evolution will allow for international best practices to be top notch in the education of the students. Positive feedback from industry emphasizes the opportunity for detailed study in areas such as urban planning and sustainability, but others believe that the scope of study is not enough to develop in-depth expertise. There is also lots of evidence for the need for structured exposure to international paradigmatic methodologies and greater clarity of specialization pathways within the educational strategies of architectural education, worthy of future systematic analysis to sharpen and deepen the professional relevance of architectural education upon entry to professional practice globally.

xxiv. According to the survey findings, these concerns emphasize the curriculum's difficulty keeping up with new architectural technologies and developments in the industry. Though the move spurs technological adaptability according to certain students, almost as many tend to doubt its responsiveness. While some faculty support this notion, with a sizable share agreeing that students are very well-prepared for future industry changes, others disagree, inferring that many schools will need to update curricula more regularly and strengthen relationships with industry. Field feedback highlights the need for further training post-graduation, with a majority of respondents indicating that graduates need to be better prepared to enter the workforce, although a significant portion believes that the current curriculum is adequate. These findings decree the necessity for secured integration of up-to-date technologies, nurturing of adaptability and responsiveness to the job market addressing the skills gap in the lucrative field for the betterment of the students.

xxv. A report with findings from the survey showed that the perception of integrated learning, access to competitions and exchange programs as well as curriculum flexibility in fostering creativity is mixed. A number of students highlight the value of example experiences like exposure to urban planning or AI in architecture, but many indicate a widespread lack of opportunity, implying that more cross-pollination is beneficial for the design professions and education alike. Some responses included mention of programs such as competitions or exchange programs, but not necessarily a clear sense of how such programs exist or whether they are being accessed, demonstrating the need for both promotion of these initiatives and their wider accessibility across types of educators. According to industry perspectives, the rigid structures of curriculum challenge free creative experimentation in design studios, with a significant percentage recommending a less structured, pick your own adventure approach. With this insights, it underlines the necessity that would continue to improve interdisciplinary learning, provide wider access to collective work opportunities, and increasing the flexibility within architectural education, thus better equipping students for the industry in the making.

xxvi. However, this information shows confusion over opinions and dedication to hands-on experiences, applied learning, and internships in architectural fields. Although most students report that their coursework does include model-making and prototyping, many feel that these elements are not adequately covered and that there is a lack of practical experience. Similarly, faculty responses also indicate a division of opinion on the value of internships (and practical training) in mediating the capacity of theory to catalyse practice, indicating the need for institutional internship programs to be restructured to engender real-world application. Internships are generally viewed as a good thing, albeit a substantial percentage indicates a shortcoming of substantive experience being offered through these programs, highlighting the need for better and more comprehensive training opportunities that align with industry requirements and expectations of professional roles. Insights like these highlight the need to strengthen learn-by-doing components and ensure that academic programs reflect real world industry expectations.

xxvii. The survey highlights diverse opinions regarding the role of architectural software, the importance of physical modeling experience, and whether the length of internships is sufficient in architectural education. Although a plurality of students agree that digital tools are woven into their curriculum, many others believe more technology is needed, leading to scepticism about whether schools adequately prepare students to meet the needs of an evolving industry. Responses from faculty about hands-on training in modeling and fabrication are equally polarized, illustrating a potential void of real-world skills training and the need for additional opportunities to develop feasible talent. From the point of view of institutional internships, most agree that the length is enough to prepare them for life after graduation but a significant amount believe extending their time could better prepare them for challenges in the real world. Also, a need to be more aligned with the current technological, practical and industrial practices has been highly advocated through the findings of these studies.

xxviii. These survey findings illuminate the ongoing divisive issues around learning by doing, who teaches digital tools to whom and the software competency of their graduate fellows at the architecture schools. Resounding majority of students agree to the role of field visits, live projects and case studies in making education more effective yet large number feels that such opportunities are limited or inconsistent in nature and thereby indicates a need for reinforcing experiential learning. Observations faculty made about whether the specific tools used in teaching—AutoCAD, Revit, and Rhino—were conducive to instruction showed a divide; nearly half thought this instruction was effective while others felt it was lacking, suggesting a need for further curriculum development relating to digital tools. A majority of professionals believe that graduates are competent users of architectural software programs, although a sizeable minority views significant gaps in graduates' use of digital tools, emphasizing the need for architecture programs to provide more holistic training in these areas. These students identified and the teachers confirmed the importance of reinforcing real-world exposure and ensuring robust digital competency to prepare students for industry demands.

xxix. Contradictory examples of internship/experiential educational and training provision specifically in construction project management by industry survey. Over half the students believe their internship period adequately prepares them with applied skills but a significant portion is concerned with the length and effectiveness of the internship, indicating an area for improvement. Responses from faculty members revealed that although many felt that field visits and live projects enriched the architectural education experience, a sizable number still do not believe in its usefulness; this underscores some ways to strengthen real-world application within the curriculum. Most industry professionals are in consensus that there is inadequate training for students in construction project management, and a majority noticed gaps in preparedness. These results highlight the importance of improving the syllabus in terms of practical work, optimizing internship construction, and ensuring that the courses are tailored to the students to be able to coordinate their projects once they are settled within the business.

xxx. Almost half of the students reported sufficient exposure to construction techniques, but a significant percentage indicated that more hands-on learning would benefit them. Internships: Faculty members are divided on whether internship durations are short enough, with some arguing that they should be modified to better prepare students with industry-relevant skills. The industry perspective is somewhat similar with regard to soft skills for instance client communication, negotiation and leadership which are mostly poorly developed, with the majority being dissatisfied. These revelations highlight the need for curriculum reforms that deliver more experiential learning, streamlined internship architecture, and holistic soft skills training to equip our students for their professional journeys.

xxxi. The survey results indicate that — even as close to half of students and faculty believe soft skills training, like communication, teamwork, and leadership, is sufficiently integrated into architectural education — notably one out of every four participants of the survey disagrees. This underscores the necessity for formalised soft skills training programs in the curriculum. Responses from industry also highlight another significant gap: a lack of preparation for the compliance and legal dimensions of architectural work in graduates. Over half of industry professionals were worried about this, illustrating that there is a definite need to integrate legal and regulatory training into architectural education, allowing students to face tomorrow's challenges more seamlessly. Soft skills and professional compliance training will go a long way in addressing these shortcomings at the same time.

xxxii. There is a lot of good news in the survey results that demonstrate that the design studio methodology is extensive and effective for creative problem solving, but there is also a lot of room for improvement. Although a significant portion of students and faculty feel that design studios effectively promote creativity and independent thinking, they also sense that the methodology could be improved. Industry professionals also fret whether studios are reporting that they can properly advocate for innovation. We can use these insights to refine studio-based learning through structured design challenges, peer coaching, and opportunities for collaborative learning. Improving the experimental design process and validation techniques can also help encourage creativity and problem-solving skills that students need in professional architecture practice.

xxxiii. Survey results emphasize mixed beliefs on whether the assessment system can truly measure both technical and creative abilities. While an industry and student majority agree that the system works, a sizeable percentage of students and faculty remain apprehensive of its effectiveness. Others have yet to reach a conclusion, suggesting varied experiences with the evaluation process. It can be concluded that diversity in evaluation is necessary, and hence assessments can be designed with project-based assessment and peer review, and evaluation from industry experts. By doing so, the iteration is able to be more nuanced and that could allow for a more balanced assessment that is able to encompass both technical skill as well as the creative problem-solving capacity needed for architectural education and practice.

xxxiv. Within architectural education, the survey data has given us a mixed perception regarding the adequacy of exposure to emerging digital tools — specifically BIM, AI, and computational design. Although a large majority of students and faculty believe that the curriculum covers these tools, a significant share of respondents—particularly among the students and industry—feel that there is a lack of training and hands-on experience with such technologies. Industry feedback in particular highlights this issue, indicating the need for proficiency in these tools, many of which users feel that our graduates do not know how to use, having dropped out of the curriculum altogether, or been very superficially integrated. This emphasises a need of the hour, to not only supplement academic courses with the addition of experiential learning modules, workshops and collaboration with the industry, as well as relevant professional certifications in respect to new-age technologies, but also to make sure that graduates are ready to tread on this fast-paced and ever-evolving architectural landscape.

xxxv. There are different views expressed on whether institutions have enough materials for learning contemporary technologies in architecture according to the survey. While a majority of students believe institutions have the equipment, labs, and software students need to succeed, a considerable percentage find that to be an inaccurate statement, suggesting infrastructure and accessibility are still a concern. Responses from faculty also reveal a division of sorts, with many acknowledging the existence of resources but others citing inadequacies as well as a demand for more robust training in technical skills to maximise efforts with available tools. Feedback from industry indicates that there is a profound gap between the digital skills delivered through formal education and the skills required in practice. Though there is recognition of some alignment, there is an explicit demand for the evolution of curricula through greater investment in technological infrastructure and the use of leading edge digital tools, including AI, BIM, VR and AR. Taking such steps would not only bring learning environments up-to-date, but also ensure graduates are ready to rise to the demands, standards and requirements of today's industries.

xxxvi. There appears to be a clear divide between the academics and industry respondents in the survey particularly in reference to the extent to which they identify their training during architecture school to be closely aligned with their respective needs for digital skills. Over half the students and faculty members feel there is a disconnect between what is being taught and what is actually required in practice, but a sizeable minority disagree, indicating that some still view the current curriculum as adequate. Across the responses of all groups, neutral sentiments exhibit ambiguity in experiences or variability amongst respondents. That view is supported by feedback from across the industry, which estimates that more than half said there's a gap, although a significant number also believe education programs are keeping up with professional needs. These mixed perceptions highlight the importance of stronger collaboration between academia and industry, and the urgency of integrating emerging technologies, such as AI, BIM, machine learning, and immersive digital platforms, into architectural education. A proactive approach in this regard would take into account that IT graduates should possess not only theoretical background, but also practical digital skills that empower them to excel in a changing working environment.

xxxvii. Results of the survey show a dual perception about the access and adequacy of training in new technologies via academic-industry alliance among students, professors and industry. Although decades worth of leaders believe such partnerships exist, an almost equal number disagrees, signifying that such access to real-world, tech-focused experiences through experiential education is not uniformly available across institutions. Responses from faculty mirror this divide, with a large number recognizing the availability of workshops and other training programs but nearly as many expressing concern for their adequacy and frequency. A surprising level of neutrality across both groups appears to underscore uncertainty or variability in access to such opportunities. Industry reaction is similarly divided; slightly more than half of respondents feel that institutions deliver enough digital training resources, and a sizeable minority disagrees. This highlights a pressing need for institutions to collaborate more closely with industry, with proactive structured settings for engagement, such as workshops, guest lectures and learning with cutting-edge tools. This is pivotal to complement such changes since students would learn to be exceed their horizons and fit in a fast-changing professional world while more innovative industry approaches can be used in education.

xxxviii. The survey results indicate a generalised sense that access to advanced software is crestfallen for many institutions due to operational budget constraints. Though many students and faculty members identify financial limitations as a considerable barrier, others assert that their institutions manage to provide adequate support, indicating differing amounts of resources available. Interviews suggest nuances, with variation in funding and access across academic contexts. The implications of these findings stress the need for inclusive and sustainable strategies to provide all students with necessary digital instruments. Key interventions include promoting open-source alternatives, negotiating educational licensing agreements and strategically investing in the tech infrastructure. Utilizing cloud platforms, virtual labs, and established partnerships with industry leaders can also provide practical and cost-effective resources. It is therefore critical to proffering a more balanced and future-facing architectural education that is fit for the profession.

xxxix. The survey results suggest that students, faculty, and industry professionals involved in architectural education all face challenges in adapting to the rapidly evolving digital landscape. Many students struggle to keep up with changing technologies, which most likely calls for more structured classroom learning, hands-on training, and exposure to real-world practices. However, some students feel prepared, indicating different levels of digital literacy and institution support. Similarly, faculty members express concerns about keeping pace with trends in technology; however responses reflect variation by institution in how prepared faculty feel and access to professional development opportunities. Similarly, professionals in the industry largely agree that the architecture curriculum is falling short of keeping up with new tools and trends like AI, BIM, VR, and AR. Such views highlight the necessity for academic institutions to avail themselves of regular curriculum updates, curriculum-specific upskilling programs, stronger industry collaborations and regular training for students as well as educators to thrive in contemporary architectural practice.

xl. A combination of hope and cynicism is observed in a survey conducted among students about the pros and cons of NEP 2020 on architectural education. Where 51% of students are either positive or extremely positive about anticipated impact of NEP 2020 on altering the architecture curriculum, almost the same percentage (49%) feel that existing system is better. Faculty response is indicative of a rather optimistic outlook on the new policy, with many believing that the policy is likely to one day lead to transformational change in terms of reforming curriculum and teaching methods, though several point to concerns about the process by which the policy would affect change. This optimism is largely repeated by the industry professionals who suggest that NEP 2020 may enable the modernization and upgrading of architectural education. Nonetheless, there is cautious optimism over whether or not the policy can remedy educational gaps currently, with apprehensions regarding roll-out, readiness of faculty and technology integration. In general, NEP 2020 is considered as a progressive step ahead by a majority, yet its implementation and incorporation into the specific needs of the academic field will gauge the success of the initiative for the same.

xli. The survey provides a diverse yet informative view of how NEP 2020 can affect flexible and multidisciplinary solutions in architectural education. Many students feel that the policy will improve the flexibility of academic courses, particularly having an expanded variety of numbers available that would provide more options in course and electives, but a significant amount of students disagree. Faculty responses also exhibit a favourable disposition towards NEP 2020's call for a holistic, multidisciplinary learning framework. Yet a significant number say that they doubt that it will affect its real-world impact, stressing that there is a need for clarity on how to implement it. In contrast, the industry seems to be more sceptical, with a significant portion showing disbelief in the policy bringing significant convergence between academia and industry. This indicates continued anxiety around execution challenges, faculty preparedness, and the lack of meaningful industry engagement in academic reform. Bridging this gap would mean structured collaborations, constant real-world exposure to students, and joint efforts of academia and industry to unleash the true potential of NEP 2020.

xlii. Current state-of-the-art architecture industry standards are still not aligned with these standards. Therefore, the hypothesis that the existing curriculum is sufficiently aligned with the profession's needs and does not need to undergo major adjustments is rejected, which indicates the necessity of a global review. Moreover, inflexibility in the curriculum is an obstacle to being responsive to change and trends, and thus the null hypothesis of rigidity not stunting flexibility is rejected. This highlights the need for greater curricular flexibility so that students are better prepared for ever-changing market conditions. The importance of providing access to technology highlighted the influence of practical training on architectural education and training during practical training contexts. Thus, the hypothesis that the curriculum adequately prepares students with practical professional skills is rejected. This suggests that there is a great deal of room for additional technology based learning to give our students a greater foundation in the field. Although the curriculum aims to solve real-world industry problems, challenges, like the complexity of digital tools, constrained resource accessibility, and knowledge gaps concerning technology, continue to pose significant challenges. The steps that institutions can take to bridge the gap between teaching and practice by improving infrastructure, building research capacity, developing faculty, and training digital literacy in the classrooms. In addition, the results highlight the significance of structured and regular hands-on training programs, backed by institutional initiatives and continuous digital upskilling of faculties, to help align educators to the prevailing trends in the industry.

**5.3 Summary of Final Conclusions based on Comparative Study of Various Analysis with respect to Hypothesis:** Following tables provide the summery of conclusions with respect to each hypothesis.

**Table 5.1: Analysis w.r.t. Hypothesis 1**

| **Hypothesis** | **1. The existing undergraduate architecture curriculum in India is adequately aligned with the current needs of the profession and does not require significant modifications. (Rejected)** |
|---|---|
| **Literature Research , Expert views** | a. Discrepancies between Education and real world industry demand.<br>b. Strong emphasis on Theoretical knowledge at the expense of Practical skills.<br>c. Students are ill-prepared for customer relations, project presentations, and business development |
| **Quantitative Analysis** | a. There is a consensus, particularly from students and industry, that the curriculum needs significant updating to better match real-world requirements.<br>b. Adequate focus on in sustainable architecture, green building practices, smart cities, parametric design, and computational architecture is missing.<br>c. Engagement with Industry professionals is inadequate.<br>d. Exposure to real-world projects needs improvement.<br>e. Curriculum needs regular upgrading to meet Industry expectations. |
| **Qualitative Analysis** | a. One of the most prevalent issues is Old Pedagogy which was the most mentioned by respondents. Many educators and students pointed out that traditional, lecture-heavy approaches dominate architectural education, stifling creative and critical design thinking.<br>b. Formal Institution-Industry partnerships are being followed by very few Institutions. |
| **CoA Minimum Standards implementation Analysis** | a. In case of Professional Core Subjects (PC), all cases are within the recommended percentage range by CoA. With few cases providing more emphasis on this group of subjects.<br>b. In case of PE basket, majority of the case studies do not offer Green Building and rating systems, Building system Integration and Management, Appropriate Building Technologies, Earthquake Resistant Architecture, Disaster Mitigation and Management & Building Performance and Compliance. |
| **Remarks/Conclusions** | **a. The curriculum needs significant updating to better match real-world requirements.**<br>**b. Students shall be prepared for Customer relations, Project Presentations and Business development.**<br>**c. Formal Institution-Industry partnerships need to be established.**<br>**d. Real world projects in the Design studios to be encouraged.**<br>**e. Adequate focus shall be provided to Green Building and rating systems, Building system Integration and Management, Appropriate Building Technologies, Earthquake Resistant Architecture, Disaster Mitigation and Management & Building Performance and Compliance.** |

**Table 5.2: Analysis w.r.t. Hypothesis 2**

| | |
|---|---|
| **Hypothesis** | **2. The rigid structure of the architecture curriculum does not hinder its adaptability to emerging trends in architecture. (Rejected)** |
| **Literature Research , Expert views** | a. Curriculum rigidity with restricted elective freedom hampers project partnerships.<br>b. Need to emphasise Circular economy concepts, Climate responsive Architecture, Sustainable materials and Energy efficiency.<br>c. 'Indian Knowledge System' (IKS) needs to be incorporated for ecologically conscious Design and regional settings.<br>d. Inability to handle global issues like Natural Disasters, Climate Change and Humanitarian crises.<br>e. Architecture as a tool to shape National identity and its relationship with Regional development and Modernisation Goals. |
| **Quantitative Analysis** | a. All groups recognize that a rigid curriculum restricts responsiveness to emerging trends, with students and industry calling for more flexibility.<br>b. Graduates find it difficult to transition into new and emerging fields in architecture.<br>c. More efforts are needed in the area of learning of International trends in architecture.<br>d. More opportunities are required in curriculum to promote innovation and adaptability in design thinking. |
| **Qualitative Analysis** | a. The Curriculum Rigidity is considered as second most important issue of concern, which limits the options for electives and offers inflexible course structures, restricting the student autonomy and innovation.<br>b. The issues of Sustainability and Regional Relevance are often cited, suggesting that the curriculum is not deeply integrated with local environmental, cultural and socio-economic contexts.<br>c. Moderate apprehensions have been expressed about Global Alignment.<br>d. The use of digital tools like Revit, Rhino, BIM etc. though considered to be good emerging practice, many institutions are yet to start using it comprehensively.<br>e. Level of Sustainability Integration, is very low and needs further support. |
| **CoA Minimum Standards implementation Analysis** | a. In BS & AE subjects, Environmental Lab and Acoustics, though considered compulsory, are by and large not covered as independent subjects.<br>b. In case of Professional Electives (PE), majority of the cases are up to 5% low. Also, there is a general tendency to convert the subjects from PE basket to PC basket, reducing the flexibility for selection of Electives, where individual student's choice matters. |

| | |
|---|---|
| **Remarks / Conclusions** | **a. The existing structure of Architecture curriculum is by and large rigid and needs great flexibility for adopting itself to emerging trends.**<br>**b. More opportunities are required in curriculum to promote innovation and adaptability in design thinking.**<br>**c. Need to emphasise Circular economy concepts, Climate responsive Architecture, Sustainable materials and Energy efficiency.**<br>**d. Studies in 'Indian Knowledge System' (IKS) needs to be incorporated for ecologically conscious Design for regional settings giving due respect to local environmental, cultural and socio-economic contexts.**<br>**e. Adequate opportunities shall be provided to study International trends so as to achieve Global competence.**<br>**f. Adequate Elective choices to be provided for student centric learning.** |

## Table 5.3: Analysis w.r.t. Hypothesis 3

| **Hypothesis/Description** | **3. The current undergraduate architecture curriculum sufficiently equips students with practical skills required for professional architectural practice. (Rejected)** |
|---|---|
| **Literature Research , Expert views** | a. Poor response to Environmental and Socioeconomic Shifts<br>b. Lack of Practical Construction Exposure<br>c. Many companies limit students' learning experiences by assigning them simple drafting jobs.<br>d. To include Building Performance Simulation Tools (BPTS) as integral part of studio. |
| **Quantitative Analysis** | a. There's a clear need to strengthen practical training components, especially as perceived by students and industry stakeholders.<br>b. Fresh graduates are not equipped to handle regulatory and legal aspects of architectural practice.<br>c. Graduates are not equipped to handle effectively the Entrepreneurial opportunities and independent practice. |
| **Qualitative Analysis** | a. The Disconnect of Academia with Industry is considered to be very critical aspect, preventing students interaction with the live projects making, students unprepared for the real-time challenges.<br>b. Design-build studios, which help bridge the divide between theory and practice through hands-on experience with real design and construction projects is considered as second most important emerging good practice.<br>c. Flexible Thesis options, though considered as a good academic practice, is followed by only few schools. |
| **CoA Minimum Standards implementation Analysis** | a. As far as Building Sciences and Applied Engineering (BS & AE) is concerned, majority of the cases are at least 5% above the recommended percentage range by CoA.<br>b. Though Professional Ability Enhancement Compulsory Courses (PEECC), are recommended as compulsory courses by CoA, majority of the Institutions in case studies are not offering Project Management as independent subject. |

| | |
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| **Remarks / Conclusions** | **a. The existing B.Arch. curriculum needs major revamping so as to inculcate practical skills for professional practice of Architecture.**<br>**b. Study of regulatory and legal aspects of Architecture needs to be strengthened along with the modules on Entrepreneurial opportunities and independent practice.**<br>**c. Design-build studios along with real time challenges shall become integral part of studies.**<br>**d. Project Management and other Professional Ability Enhancement Courses need to be conducted without exception.**<br>**e. Practical Training/ Internship guidelines for Students and Industry need to be in place, and shall be rigorously monitored.**<br>**f. Flexible Final year Thesis/Project options shall be provided with the possibility of Industrial sponsored projects to be carried out while working with the Industry.** |

## Table 5.4: Analysis w.r.t. Hypothesis 4

| | |
|---|---|
| **Hypothesis/Description** | **4.There are no significant challenges faced by students and faculty in adopting modern technologies in architectural education.(Rejected)** |
| **Literature Research , Expert views** | a. Lack of expertise in Cutting edge Technologies like Digital Competency, AI, 3D Printing, BIM, VR, AR, Parametric & Computational Design.<br>b. 3D printing, robotic construction, and generative design are all part of the future of architecture, yet the majority of Indian universities lack the facilities.<br>c. To include BIM modules as integral part of Design and Construction Studio.<br>d. BIM – VR techniques can transform Arch. Education by helping students visualise and interact with actual building process. |
| **Quantitative Analysis** | a. All parties recognize systemic and infrastructural issues preventing tech integration, with a strong push from the industry for immediate upgrades.<br>b. Faculty members need immediate capacity building measures to train students in advanced digital tools.<br>c. Adequate emphasis on parametric and computational design in the curriculum is missing.<br>d. The curriculum offers very few opportunities to students to prepare for role of automation and digital fabrication in architecture. |
| **Qualitative Analysis** | a. The Digital Gap is the third most important concern, where so many institutions are considered to be years behind in adopting modern software tools and digital workflows that are being used in the profession today. |

| | |
|---|---|
| **CoA Minimum Standards implementation Analysis** | a. The Skill Enhancement Courses (SEC) are not considered seriously by majority of the cases studied. Subjects like Communication Skill, Building Information Modelling (BIM), Digital Graphics and Arts, Entrepreneurship Skills for Architects & Foreign Language though important, are not offered by many. |
| **Remarks / Conclusions** | **a. Numerous challenges are faced by faculty and students in adopting Modern Technologies in architectural education.**<br>**b. Cutting edge Technologies like Digital Competency, AI, 3D Printing, BIM, VR, AR, Parametric & Computational Design, 3D printing, robotic construction, and generative design etc. shall be integral part of learning. It shall be adopted in Design and Technology studios.**<br>**c. Faculty members need immediate capacity building measures to train students in advanced digital tools.**<br>**d. Subjects like Communication Skill, Building Information Modelling (BIM), Digital Graphics and Arts, Entrepreneurship Skills for Architects & Foreign Language and other SEC shall be introduced as compulsory subjects without exception.** |

## Table 5.5: Analysis w.r.t. Hypothesis 5

| | |
|---|---|
| **Hypothesis/Description** | **5. The National Education Policy (NEP) 2020 has no significant influence on the restructuring of the undergraduate architecture curriculum in India. (Rejected)** |
| **Literature Research , Expert views** | a. Poor Multidisciplinary education.<br>b. B.Arch. Programme duration(5 Yrs) too long. Modular System allowing students to tailor expertise based on interest is missing.<br>c. Indian colleges are lagging behind in incorporating Massive Open Online Courses (MOOCs), virtual studios, and digital learning resources into architecture education.<br>d. Competency Based Education (CBE) needs to be included.<br>e. Necessity to integrate Digital Technologies in Architecture Education so as to effectively provide blended learning. |
| **Quantitative Analysis** | a. NEP 2020 is seen as a positive step, but stakeholders' express concerns about actual execution and impact.<br>b. Majority believes that the revised structure under NEP 2020 would ensure better prepared graduates for professional practice.<br>c. Faculty show cautious optimism about NEP 2020, with mixed opinions on implementation feasibility.<br>Students are hopeful but uncertain about tangible changes reaching them.<br>Industry professionals are supportive, expecting NEP 2020 to bridge the industry-academia gap. |

| | |
|---|---|
| **Qualitative Analysis** | a. Complementary and Interdisciplinary electives top the list of emerging good practices.<br>b. Community engagement projects are considered to be one of the best emerging practices.<br>c. Global Exchange Initiatives is practiced by very few Institutions.<br>d. Architectural education in the country must be framed at policy level to promote flexibility, innovation, digital literacy and contextual sensitivity. |
| **CoA Minimum Standards implementation Analysis** | a. Open Electives (OE), which are expected to provide exposure to students in the areas other than their core study area are by and large ignored by majority of the Institutions in the case studies. |
| **Remarks / Conclusions** | **a. NEP could be considered as great opportunity for restructuring the undergraduate Architecture curriculum.<br>b. Multidisciplinary education shall be introduced.<br>c. Possibility of recalibrating the Programme duration of Architecture Education as per NEP to be examined.<br>d. Architecture curriculum to be revised to incorporate Massive Open Online Courses (MOOCs), virtual studios, and digital learning resources so as to effectively provide blended learning.<br>e. Complimentary and Interdisciplinary elective baskets to be introduced with the possibility of providing B.Arch. with 'Minor' in Interdisciplinary field , B.Arch. Honours' with `Specialisation' in Complimentary field within the framework of NEP may be examined.** |

## 5.4 Recommendation:

Based on the findings following recommendations have been suggested:

### 5.4.1 Recommendations related to Academic Institutions:

### A. Curriculum Reform and Flexibility

i. A concrete plan for restructuring the present architecture curriculum need to be taken up by academic institutions. We need to adjust the current academic content to address new emerging trends (sustainable design, smart urbanism, climate-responsive architecture, digital construction design, green building technologies, etc.) that are directly applicable to the education of students. Such additions would help to ensure that graduates are not only fit for purpose against the requirements of their future professions, but also against the demands of society.

ii. Increase academic flexibility to promote student engagement and adaptability. A broader range of electives, as well as core subjects that students choose themselves within legal and ethical parameters, will arrive at a point where students feel empowered to take control over their own education at an early stage, as well as creating opportunities to cross traditional boundaries and create paths in interdisciplinary fields such as environmental science, management, or digital fabrication that place Architecture-attendees in a better-formed and inspirational position.

iii. Curriculum review and audits at least annually should be institutionalized. These reviews need to be done with input from all key stakeholders — students, alumni, industry partners and faculty — so that the curriculum remains in sync with the latest professional standards and tools, as well as real-world needs.

**B. Technology Integration and Infrastructure**

i. Technology in architectural education is quite unavoidable and is a necessity rather than a choice. Grassroots Requiring students to understand and practice the use of industry-specific software (such as AutoCAD, Revit, Rhino, BIM tools, VR/AR platforms, and parametric design software) should be embedded in the core curriculum and students should be provided with ample opportunity for hand-on application.

ii. Digital infrastructure investment, which will make this integration possible. This means having adequate computer labs with the latest hardware and software, good internet connectivity, cloud computing capabilities and systems that foster collaborative as well as remote design work. It will allow for an impressive upgrade of digital learning and simulation.

iii. Institutions must address inequities of student access to the necessary tech tools. To address the need for inclusivity and digital equity across socio-economic groups, institutions may look into programs like subsidized student licenses and laptop banks, open-source software alternatives, and remote virtual lab environments.

**C. Faculty Development and Capacity Building**

i. There should never be a lack of continuous training for faculties to teach traditional and digital design methods. Regular workshops, certifications, and faculty development programs catering to the cutting-edge design tools, pedagogy and expectations from the industry should be organized and run by the institutions.

ii. Promoting faculty involvement in research and innovation initiatives adds real-world relevance to academic offerings and helps bridge the gap between theory and practice. Each institution can support this endeavour through seed grants, sabbaticals, or partnerships with industry and research organizations to pursue innovations in architectural education.

iii. Moreover, new digital tools must be integrated regularly into the faculty's teaching arsenal in a systematic way. This will enable professors to offer hands-on experience with the latest technologies and ensure that students are learning with industry professionals who are current with market developments.

**D. Industry-Academia Collaboration**

i. Higher education institutions have to seek formal and well-defined partnerships with the architecture and building industries. Such partnerships cannot just introduce celebrity experts for guest lectures, help build co-creation of curriculum modules, but also provide an ongoing influx of current industry insights into the classroom and studio.

ii. Internships and on-the-job training programs should be compulsory, structured, and aligned with the academic objectives. Institutions should collaborate with credible firms where students could be exposed to the real-life work environment along with their classroom knowledge so that they have a better idea of industry behaviours.

iii. The Alumni do serve as an invaluable link between academia and industry. They should develop alumni networks and engage them in curriculum design, career mentoring, industry exposure sessions, and feedback collection. Alumni success stories are inspirational for students to aim for higher performance and creative thinking.

**E. Holistic and Inclusive Education**

i. As per NEP 2020, Institutions have to encourage interdisciplinary learning enabling students to choose courses outside the streams of their own. It is not just fundamental knowledge in the world of architecture students but makes global awareness and interdisciplinary inputs a strong driving factor in architectural problem statements and innovation.

ii. Soft skills training is to be part of the same curriculum. In the modern workplace, communication, leadership, project management, negotiation, and entrepreneurship are every bit as relevant as design skills. These non-technical competencies need to be developed through workshops, group projects and role-plays by the institutions.

iii. Institutions should actively explore sustainability, equity, and equity in core design teaching. Such a focus will enhance the relevance of architectural education, prepare students to be responsible and conscious practitioners and contribute to socially responsible design, universal access, and climate-conscious practice.

### F. Experiential Learning through Live Projects

This should be built into the core curriculum at academic institutions, where students work together with local communities, municipal bodies or NGOs to find real architectural solutions through live projects. Such experiential education prepares future leaders who not only possess practical skill sets but also understand social and cultural contexts, helping to close the gap between study and practice.

### G. Setting up Design Incubation Labs

Institutions should set up in-house Design Incubation Labs or studios where students may prototype and experiment with architectural solutions, particularly those materials or construction techniques. These labs become arenas for experimentation with entrepreneurial ideas that could evolve into start-up companies or student-based design consultancies.

### H. Embracing Artificial Intelligence and Data Analytics

To future-proof students, schools should offer modules or certificates in related fields such as AI-driven design, data visualization and urban analytics. With architecture becoming increasingly data-driven, the exposure to AI tools, generative design platforms, and predictive modeling used by leading firms will support students to better address complex design problems.

### I. Establishing Global Exchange and Collaborative Studios

Partnerships with international architecture schools can enrich the student experience through **global exchange programs, joint studios, and collaborative research.** Institutions can encourage students to participate in virtual or physical mobility programs, offering diverse perspectives on architecture, planning, and sustainability from different cultural and geographic contexts.

### J. Mental Health and Wellness Integration

International exchange and collaborations of architecture schools can enhance the students' experience with global exchange programs, joint studios and collaborative research. Facilitate virtual or physical mobility programs, exposing students to disparate viewpoints on architecture, planning, and sustainability from varying cultures and geographic locations.

### K. Curriculum Gamification and Interactive Learning

Architecture programme is sometimes stressful and may need mental and emotional support. Institutions should set up wellness programs that provide counselling services, time management, and studio culture reform that allows the student to thrive within academia.

### L. Encouraging Cross-Sectoral Collaborations

Beyond traditional architecture and engineering collaborations, students should be exposed to professionals from **fields like sociology, climate science, behavioural economics, and digital art.** Institutions can host interdisciplinary hackathons or workshops where students solve urban problems or design for marginalized groups using a multi-perspective approach.

### M. IKS, Local Vernacular and Heritage Documentation Programs

Institutions must introduce programs that get students to study and document Indian Knowledge Systems (IKS), heritage architecture, vernacular techniques and traditional construction and prop up regional identity. This might result in community archives, exhibitions, or even digital libraries that preserve and celebrate India's rich architectural history and incorporate these practices in contemporary design.

### N. Promoting Design Competitions and International Recognition

Institutions must promote and encourage the students to prepare and participate in National and International Design Competitions. Such exercises shall be integrated with main stream learning by way of giving proper academic weightage in Design Studios. This would prepare participating students to face real world challenges, make them aware of national and international professional scenario, understand and appreciate the work of fellow students across the world and would bring International awareness and recognition.

### O. Blockchain for Academic Transparency and Portfolios

Universities could have the opportunity to implement the integration of blockchain technology that safely maintains and stores academic records, student portfolios, certifications, and project documents. With a decentralized system, institutions can be assured that student achievements, design innovations and creative works are tamper-proof, transparent and, easily verifiable. This fosters trust and credibility as these records are shared with external parties like prospective employers, academic juries, research organizations, or scholarship providers. Also, blockchain can simplify verification processes, minimize, fraud and create a more efficient and transparent academic system that creates a win–win situation for every student and institution.

### 5.4.2 Recommendations related to Industry:

Following are some of the recommendations for industry representatives:

**A. Active Participation in Curriculum Development**

The Profession of Architecture, should proactively involve with academic units at formulating and periodic review of architecture curricula. The industry can facilitate more relevant content in academia by providing their insights on emerging technologies, market demands, and professional practices. Industry experts may serve on advisory boards, help develop electives, even sit on accreditation boards to ensure that programs offered in our schools are relevant to the changing needs of the field. This will lead to graduates who will be better prepared and industry ready from the point of graduation.

**B. Industry-Led Faculty Development Programs**

Industry can build this bridge by funding structured faculty development around their workflows. This includes the organization of hands-on workshops, exposure visits to construction sites, design firms, or manufacturing units, and short-term residencies for educators. By consistently sharing information on current technologies, project workflows and client expectations, we equip our faculty with important context that informs how they convey this information to students, keeping classroom dialogue connected to the realities of architectural practice.

**C. Internship Programs with Structured Learning Outcomes**

Internships have always needed to be much more structured as learning experiences. These internships, however, should not be clerical or observational in nature, but expand their horizons to include design development, site supervision, client meetings, and project management, etc. Articulated learning objectives, regular feedback sessions, and mentor-mentee partnerships have the potential of transforming internships into powerful experiential learning experiences that further develop competence and confidence in in-training professionals.

**D. Offering Sponsored Research Opportunities**

It is common for architecture firms and allied industries (i.e. real estate, urban planning, or building materials) to partner with academic institutions as sponsoring or providing research grant funding on topics such as: sustainable design, smart cities, affordable housing or climate-resilient architecture. These initiatives give students and faculty the ability to conduct meaningful research that addresses real-world problems, while allowing firms access to new ideas and data that might be used in current or future engagements.

**E. Industry Mentorship Networks**

Additionally, mentorship programs that connect seasoned architects with students and recent graduates can foster an ecosystem of professional growth and guidance. These mentors can help students with academic projects, career planning, portfolio development, as well as industry networking. One-on-one or small group mentoring models support the sharing of knowledge, building of soft skills and a smoother transition into the workforce for young professionals.

**F. Hosting Design Challenges and Innovation Labs**

The industry could establish and fund annual or bi-annual design competitions, innovation labs or design charrettes using real-time urban, social or environmental issues. These fast-paced, high-stakes, and real-world problem-based challenges provide an opportunity to foster creative thinking, team involvement, and critical analysis from the students and faculty who participate, while exposing the participants to the realities of deadlines and expectations that come with practice. As a result, they present an opportunity not only for identification of important problems for immediate future action, but also by such challenges fostering an environment focused on teamwork and logical problem addressing. Again, these contests can serve as a means of talent scouting for firms.

### G. Promoting Digital Literacy and Emerging Technologies

Industry players need to play their part in elevating the digital literacy of aspiring architects through sponsorship of workshops or certifications in software like BIM, parametric design, digital fabrication and virtual/augmented reality. Given that digital transformation is upending the profession, it's imperative that the next generation is able to use advanced software and simulations. Donations can also include software licenses, cloud access, or collaboration in developing digital learning modules with academic partners.

### H. Establishing Centres of Excellence

Similar initiatives can be undertaken by the Architecture and construction-related industries in collaboration with institutions and establishment of the Centres of Excellence in specific domain like sustainable construction, heritage conservation, or smart city architecture. These are collaborative spaces that connect professionals, faculty, and students around projects, research, exhibitions, and training programs. Not only does it create a culture of continuous learning and innovation, but also acts as a multiplier for research capabilities and brand equity for the partnering firm.

### I. Creating Scholarships and Fellowships

Industry bodies and firms should establish scholarships, fellowships, or student competitions that empower economically disadvantaged yet talented students. These various types of financial assistance may be for tuition, project costs, study tours, or international conferences, among other things.

Architectural practices can similarly develop fellowships across under-represented themes in architecture such as gender-sensitive design or rural development. This recognition and reward of excellence makes the industry more rewarding and inclusive.

**J. Supporting Alumni Engagement Initiatives**

As a multifaceted organization, architecture firms are capable of strengthening the alumni networks of academic institutions through their participation in alumni events, guest lectures, and the integration of practicing alumni with current students. These interactions give students insights into career paths, entrepreneurship in architecture and what they learn in — or about — the field. Strong alumni engagement fosters community, encourages collaboration and boosts the reputation of both the institution and the profession.

**K. Creating Industry-Academia Joint Publications**

Industry stakeholders can also co-write papers, journals, or case studies with academic partners to help in bridging the gap between the comfortable world of theory and the other difficult world of practice. Joint publications could focus on evolving design methodologies, innovations in construction technology, project documents, or sustainable materials and could be related to the firms' overlapping clients. This synergy ensures that knowledge products are not only rooted in academic rigor but also reflect the nuances of industry practices — a win-win for both academia and the business sector, and it promotes thought leadership while igniting intellectual curiosity in both students and professionals alike.

**L. Sponsoring International Exposure Opportunities**

Industry stakeholders can fund overseas industry tours, student exchanges or joint workshops at international architecture schools. The global exposure enables students to learn different architectural styles, construction methodologies, and urban planning in different regions of the world. It develops their global competency, adaptability and creativity. Companies also have the opportunity to build connections with globally aware talent and increase the brand value with international experiences, bringing ongoing value over the long-term.

### M. Driving Innovation in Construction Practices

Construction firms and developers are able to collaborate with the students and faculty to test new construction techniques, materials, and processes. For example, working together on experimental housing prototypes, or 3D-printing of affordable shelters will not only produce positive outcomes. These are pilot projects, enabled by theoretical knowledge, providing students with real-world experience and opportunities for academic and commercial firms to collaborate, innovate on solutions and gain from student expertise and creativity.

### N. Involving Students in Post-Occupancy Evaluations

The industry should welcome students to participate in POEs of completed buildings for reporting on user satisfaction, energy performance and environmental impact. This real-time evaluation allows students to see how design choices will ultimately impact performance when the program is run, introducing them to the kinds of performance metrics they'll encounter throughout their careers. POEs also feedback to industry where projects were successful, where they need to improve, and make a case for evidence-based design practice moving forward.

### O. Encouraging Policy and Regulatory Awareness

Architecture firms and industry associations should involve students in discussions about building codes, planning regulations, and policy frameworks. Seminars, panel discussions, or short certificate courses can help in this regard. Courses like these and others provide early exposure to aspiring architects to the legal, regulatory, and professional ethics context in which they will practice, equipping them to navigate the complex regulatory landscape of architecture and approach their projects with a compliant, responsible mind set before they step into the workplace.

## 5.5 Thematic Future ready B.Arch. curriculum based on the Studies:

While this Study is coming to its concluding part, intense discussions are going on between Academia, Industry and policy makers for working out appropriate framework for adopting National Education Policy (NEP) in Architecture Education. NEP suggests multiple entries and exits and the appropriate certifications at those levels, this though important, is considered as matter of detailing and hence not expressly addressed in this proposed thematic curriculum.

Though, in India we presently have five year (ten semester) degree programme leading to Bachelor of Architecture, which acts as basic qualification to statutorily register as an Architect (with Council of Architecture in case of India), internationally various other models are also available where Master of Architecture is the basic qualification for registration purposes in their respective countries. Nevertheless, every country requires minimum five years of formal education in Architecture, whether it is leading to Bachelors or Bachelors combined with Masters etc. as a pre-condition for Registration. Interestingly, NEP suggests Three years of a Non Professional degree, Four years of a Professional Degree and Five years of an Integrated Masters. The technicality of deciding as whether to continue with five years programme leading to Bachelor of Architecture (B.Arch.) or to recalibrate it with NEP and convert it into Integrated Masters in Architecture, is to be deliberated, discussed and decided by policy makers and hence not covered in the proposed Thematic Curriculum.

Another interesting recommendation of NEP with respect to flexibility in Interdisciplinary learning, the concept of achieving `Minor' or `Honours' with Specialisation' where focused subject area is dealt in details, is considered to be helpful to give adequate freedom to the students to pursue their own path of learning, resonates well with the findings of this study and hence has been integrated in Thematic Curriculum. In both the cases, the students have to acquire more than 18 extra credits during there studies to qualify for the above suffix.

The broad Credit framework suggested by NEP i.e. approximately 20 credits per semester or 40 credits per year resulting into about 200 credits for Five years programme has been incorporated in this proposal. These credits, though seem to be less as compared to existing scheme of CoA, its only because of a computational part, while CoA presently considers 1 studio hour per week equivalent to 1 credit per semester, NEP considers 1 Practical/ Tutorial hour per week equivalent to 0.5 Credits per Semester, hence in order to provide uniformity across all programmes under NEP, the computation suggested by it is considered.

The care has been taken to retain the nomenclatures of courses as suggested by CoA, as far as possible, so as to maintain the continuity. Also, the non-Credit compulsory Audit programmes as envisaged by NEP are not presently added here since the same would become integral part of the scheme once NEP would be adopted by CoA.

## Table 5.6: Recommended Subject basket wise percentage And Credit range

| Sr. No. | Subject Basket | Recommended Percentage Range | Recommended Credit Range | Credits: Thematic Scheme |
|---|---|---|---|---|
| 1. | Professional Core Courses (P.C.) | 40 to 50 | 80 to 100 | **95** |
| 2. | Building Services & Applied Engineering (BS & AE) | 20 to 27 | 40 to 54 | **53** |
| 3. | Professional Electives (PE) | 5 to 8 | 10 to 16 | **12** |
| 4. | Open Electives (OE) | 3 to 5 | 6 to 10 | **06** |
| 5. | Professional Ability Enhancement Compulsory Courses (PAECC) | 10 to 15 | 20 to 30 | **20** |
| 6. | Skill Enhancement Courses (SEC) | 5 to 10 | 10 to 20 | **14** |
| | Total | 100% | 200 to 220 | **200** |
| 7. | Compulsory Audit Courses as recommended by NEP | - | - | - |
| 8. | Optional Minor Study Area As offered by the University | Extra Credits | 18-20 | - |
| 9. | Optional Honours with Specialisation as offered by the Institution | Extra Credits | 20 | - |

## Table 5.7: Professional Core Courses (PC)

| Sr. No. | Course Name | Credits : Thematic Scheme |
|---|---|---|
| 1. | Basic Design and Visual Arts | 4 |
| 2. | Graphic Communication | 3 |
| 3. | Carpentry and Model Making Workshop I, II | 2+2 =4 |
| 4. | History of Architecture and Culture I, II, III | 3+3+2=8 |
| 5. | Architectural Graphics and Drawing I, II | 3+3=6 |
| 6. | Architectural Design I, II, III, IV,V, VI | 4+4+4+4+4+4=24 |
| 7. | Theory of Design | 3 |

| | | |
|---|---|---|
| 8. | Site Planning & Landscape Design | 3 |
| 9. | Theory of Architecture | 3 |
| 10. | Indian Knowledge System (IKS) | 2 |
| 11. | Surveying and Levelling | 2 |
| 12. | Specifications, Cost Estimation and Budgeting | 3 |
| 13. | Climatology & Environmental Science for Architecture | 2 |
| 14. | Fundamentals of Urban Design | 3 |
| 15. | Architectural Project – Industry sponsored, Competition, Real world etc. I, II | 6+7=13 |
| 16. | Human Settlements Planning | 2 |
| 17. | Sustainable Cities and Communities | 3 |
| 18. | Architectural Thesis – Industry sponsored, Competition, Real world etc. during one Sem. Internship. | 7 |
| | **Total Credits** | **95** |

### Table 5.8: Building Sciences & Applied Engineering Courses (BS & AE)

| Sr. NO. | Course Name | Credits |
|---|---|---|
| 1. | Building Materials & Construction I, II, III,IV | 3+4+4+4=15 |
| 2. | Applied Mechanics | 2 |
| 3. | Structural Design and Systems I, II, III,IV | 2+2+2+2=8 |
| 4. | Working Drawings with BIM I, II | 3+3=6 |
| 5. | Building Services I, II | 3+3=6 |
| 6. | Appropriate Building Technologies | 3 |
| 7. | Acoustics & Illumination | 2 |
| 8. | Advance Building Construction | 3 |
| 9. | Advance Building Services | 3 |
| 10. | Building Performance and Compliance | 3 |
| 11. | Digital Fabrication Techniques | 2 |
| | **Total Credits** | **53** |

**Table 5.9: Professional Elective Courses (PE)**

Four Electives to be selected from the Choices offered by the Institution Each with 3 Credits. Total credits 12. The suggestive list is given below.

| Sr. NO. | Course Name |
|---|---|
| 1. | Housing |
| 2. | Landscape Architecture |
| 3. | Architectural Conservation |
| 4. | Interior Design |
| 5. | Art Appreciation |
| 6. | Art in Architecture |
| 7. | Graphic and Product Design |
| 8. | Contemporary Processes in Architecture |
| 9. | Architectural Journalism |
| 10. | Disaster Mitigation and Management |
| 11. | Green Buildings and Rating Systems |
| 12. | Vernacular Architecture |
| 13. | Architecture of South East Asia |
| 14. | Architectural Design with Steel |
| 15. | Architectural Design with Glass |
| 16. | Furniture Design |
| 17. | Environmental lab |
| 18. | Earthquake Resistant Architecture |
| 19. | Building Systems Integration and Management |

**Table 5.10: Open Elective Courses (OE)**

Three Electives to be selected from Multidisciplinary areas except from parent branch of Architecture. These could be from approved online platforms.

| Sr. No. | Course Name | Credits |
|---|---|---|
| 1. | Open Elective I, II, III | 2+2+2 = **Total 6** |

## Table 5.11: Professional Ability Enhancement Compulsory Courses (PAEC)

| Sr. No. | Course Name | Credits |
|---|---|---|
| 1. | Project Management | 2 |
| 2. | Dissertation/Seminar/Research Methodology | 2 |
| 3. | Professional Practice I, II | 3+3=6 |
| 4. | One Sem. duration Institution monitored Internship in Industry. | 10 |
| | **Total Credits** | **20** |

## Table 5.12: Skill Enhancement Courses (SEC)

| Sr. No. | Course Name | Credits |
|---|---|---|
| 1. | Computer Studio I, II | 3+2=5 |
| 2. | Digital Graphics and Arts | 2 |
| 3. | Communication Skills | 2 |
| 4. | Entrepreneurship Skills for Architects | 2 |
| 5. | Emerging Technologies like AI, VR, AR etc. | 3 |
| | **Total** | **14** |

## Table 5.13: B.Arch. (Honours) with Specialisation

The sample suggestive list is as under:

| Sr. NO. | Course Name |
|---|---|
| 1. | Housing |
| 2. | Landscape Architecture |
| 3. | Architectural Conservation |
| 4. | Interior Design |
| 5. | Urban Design |
| 6. | Green and Sustainable Architecture |
| 7. | Contemporary Processes in Architecture |
| 8. | Architectural Journalism |
| 9. | Disaster Mitigation and Management |
| 10. | Project Management |
| 11. | Parametric & Computational Design |
| 12. | Regional Architecture |

| | |
|---|---|
| 13. | Climate Responsive Architecture |
| 14. | Appropriate Technology |
| 15. | Advance Building Technology |
| 16. | Hill Architecture |
| 17. | IKS & Vastushastra |
| 18. | Building Systems Integration and Management |
| 19. | Set and Exhibition Design |

A student would have choice to opt for `Honours with Specialisation'(HWS) in various areas of studies associated with major stream of studies i.e. Architecture, where he shall successfully complete additional 18 to 20 credits of courses related to specialised aspect so selected. This shall be in addition to the subject offered for B.Arch. Many subject areas offered under compulsory and professional elective subjects would have a potential to expand into HWS depending upon the ability, proficiency and expertise of the specific Institution.

**Table 5.14: B.Arch. with Minor**

The sample suggestive list is as under:

| Sr. NO. | Course Name |
|---|---|
| 1. | Artificial Intelligence |
| 2. | Digital Technology |
| 3. | Digital fabrication & proto typing |
| 4. | Product Design |
| 5. | Furniture Design |
| 6. | UI/UX |
| 7. | Graphic Design |
| 8. | VR/AR |
| 9. | Business Administration |
| 10. | Financial Management |
| 11. | Real Estate law & legislation |
| 12. | Economics |
| 13. | Computer Applications |
| 14. | Research Techniques |
| 15. | Media & Mass Communication |
| 16. | Coding |
| 17. | Game Design |
| 18. | Automobile Styling and Design |

A student would have choice to opt for `Minor' in various areas of studies in streams which are different from the major stream of studies i.e. Architecture, where he shall successfully complete additional 18 to 20 credits of courses related to minor study area, so selected. This shall be in addition to the subject offered for B.Arch. This would enhance the multidisciplinary skills of the student. Also, he would be capable of effectively integrating the diverse knowledge so earned, with his major stream of studies, improving overall quality of performance in the designated field. The Institution may offer various Minor streams depending upon the ability, proficiency and expertise of the specific Institution.

**5.6 Thematic Semester wise distribution of Courses and credits:**

The suggestive illustration of semester wise distribution of courses and credits from Semester I to X is as given below. These Tables are inter dependent with Table no. 5.5 to 5.13 for Subject baskets, Course and Credit distribution.

**Table 5.15: Semester I**

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Basic Design and Visual Arts | 2 | - | 4 | 4 |
| 2. | PC | Graphic Communication | 2 | - | 2 | 3 |
| 3. | PC | Carpentry and Model Making Workshop I | 1 | - | 2 | 2 |
| 4. | PC | History of Architecture and Culture I | 3 | - | - | 3 |
| 5. | BS & AE | Building Materials & Construction I | 2 | | 2 | 3 |
| 6. | BS & AE | Applied Mechanics | 1 | - | 2 | 2 |
| 7. | SEC | Computer Studio I | 1 | 2 | - | 3 |
| | | **Total** | **26** | | | **20** |

**Table 5.16: Semester II**

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Graphics and Drawing I | 1 | - | 4 | 3 |
| 2. | PC | Architectural Design I | 2 | - | 4 | 4 |
| 3. | PC | Carpentry and Model Making Workshop II | 1 | - | 2 | 2 |
| 4. | PC | History of Architecture and Culture II | 3 | - | - | 3 |
| 5. | BS & AE | Building Materials & Construction II | 2 | - | 4 | 4 |
| 6. | BS & AE | Structural Design and Systems I | 1 | - | 2 | 2 |
| 7. | SEC | Computer Studio II | 1 | - | 2 | 2 |
| | | **Total** | **29** | | | **20** |

**Table 5.17: Semester III**

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Graphics and Drawing II | 1 | - | 4 | 3 |
| 2. | PC | Architectural Design II | 1 | - | 6 | 4 |
| 3. | PC | Theory of Design | 3 | - | - | 3 |
| 4. | PC | History of Architecture and Culture III | 1 | - | 2 | 2 |
| 5. | BS & AE | Building Materials & Construction III | 2 | - | 4 | 4 |
| 6. | BS & AE | Structural Design and Systems II | 1 | - | 2 | 2 |
| 7. | SEC | Digital Graphics and Arts | 1 | - | 2 | 2 |
| | | **Total** | **30** | | | **20** |

### Table 5.18: Semester IV

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Site Planning & Landscape Design | 2 | - | 2 | 3 |
| 2. | PC | Architectural Design III | 1 | - | 6 | 4 |
| 3. | PC | Theory of Architecture | 3 | - | - | 3 |
| 4. | PC | Indian Knowledge System (IKS) | 1 | - | 2 | 2 |
| 5. | BS & AE | Building Materials & Construction IV | 2 | - | 4 | 4 |
| 6. | BS & AE | Structural Design and Systems III | 1 | - | 2 | 2 |
| 7. | PC | Surveying and Levelling | 1 | - | 2 | 2 |
| | | **Total** | | **29** | | **20** |
| | **H01/M01** | **For selected Honours or Major stream** | | | | **4/4** |

### Table 5.19: Semester V

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Design IV | 1 | - | 6 | 4 |
| 2. | PC | Specifications, Cost Estimation and Budgeting | 2 | - | 2 | 3 |
| 3. | PC | Climatology & Environmental Science for Architecture | 1 | - | 2 | 2 |
| 4. | BS & AE | Working Drawings with BIM I | 2 | - | 2 | 3 |
| 5. | BS & AE | Building Services I | 2 | - | 2 | 3 |
| 6. | BS & AE | Structural Design and Systems IV | 1 | - | 2 | 2 |
| 7. | PE | Professional Elective I | 2 | 1 | - | 3 |
| | | **Total** | | **28** | | **20** |
| | **H02/M02** | **For selected Honours or Major stream** | | | | **4/4** |

## Table 5.20: Semester VI

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Design V | 1 | - | 6 | 4 |
| 2. | BS & AE | Appropriate Building Technologies | 2 | - | 2 | 3 |
| 3. | BS & AE | Acoustics & Illumination | 1 | - | 2 | 2 |
| 4. | BS & AE | Working Drawings with BIM II | 2 | - | 2 | 3 |
| 5. | BS & AE | Building Services II | 2 | - | 2 | 3 |
| 6. | OE | Open Elective I | 1 | - | 2 | 2 |
| 7. | PE | Professional Elective II | 2 | 1 | - | 3 |
| | | **Total** | **28** | | | **20** |
| | **H03/M03** | **For selected Honours or Major stream** | | | | **4/4** |

## Table 5.21: Semester VII

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Design VI | 1 | - | 6 | 4 |
| 2. | PC | Fundamentals of Urban Design | 2 | - | 2 | 3 |
| 3. | PAEC | Project Management | 1 | - | 2 | 2 |
| 4. | BS & AE | Advance Building Construction | 2 | - | 2 | 3 |
| 5. | BS & AE | Advance Building Services | 2 | - | 2 | 3 |
| 6. | OE | Open Elective II | 1 | - | 2 | 2 |
| 7. | PE | Professional Elective III | 2 | 1 | - | 3 |
| | | **Total** | **28** | | | **20** |
| | **H04/M04** | **For selected Honours or Major stream** | | | | **4/4** |

## Table 5.22: Semester VIII

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Project I– Industry sponsored, Competition, Real world etc. | 1 | - | 10 | 6 |
| 2. | PC | Human Settlements Planning | 1 | - | 2 | 2 |
| 3. | SEC | Communication Skills | 1 | - | 2 | 2 |
| 4. | BS & AE | Building Performance and Compliance | 2 | - | 2 | 3 |
| 5. | PAEC | Dissertation/Seminar/Research Methodology | 1 | - | 2 | 2 |
| 6. | OE | Open Elective III | 1 | - | 2 | 2 |
| 7. | PE | Professional Elective IV | 2 | 1 | - | 3 |
| | | **Total** | **30** | | | **20** |
| | **H05/M05** | **For selected Honours or Major stream** | | | | **4/4** |

## Table 5.23: Semester IX

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Project II – Industry sponsored, Competition, Real world etc. | 2 | - | 12 | 7 |
| 2. | PAEC | Professional Practice I | 3 | - | - | 3 |
| 3. | SEC | Entrepreneurship Skills for Architects | 2 | - | - | 2 |
| 4. | PC | Sustainable Cities and Communities | 2 | - | 2 | 3 |
| 5. | SEC | Emerging Technologies | 2 | - | 2 | 3 |
| 6. | BS & AE | Digital Fabrication Techniques | 1 | - | 2 | 2 |
| | | **Total** | **30** | | | **20** |

**Table 5.24: Semester X – Industry Internship Semester**

| Sr. No. | Category | Course | L | T | P/S | Credits |
|---|---|---|---|---|---|---|
| 1. | PC | Architectural Thesis – Industry sponsored, Competition, Real world etc. during one Sem. Internship. | - | - | 14 | 7 |
| 2. | PAEC | Professional Practice II (Online mode) | 3 | - | - | 3 |
| 3. | PAEC | One Sem. duration Institution monitored Internship in Industry. | - | - | - | 10 |
| | | **Total** | **-** | | | **20** |

## 5.7 Conclusions:

Results from this research clearly highlights a disconnect between academic training and industry expectations in architectural education. Internships are intended to be a bridge for students to their own future practices; however, the gap is presently huge between the 'silent profession' and the 'silent students', which has become a serious problem as real-time exposure by and large becomes extremely difficult. The industry is not fully explorative and possibly collaborative, because of out dated pedagogical approaches followed by schools. There is a need for strengthened engagement modalities between academic institutions and industry to achieve readiness of students upon graduation and address the changing needs of the profession.

The study reports that the current architecture curriculum is strong on foundational knowledge, but is poorly aligned with contemporary professional requirements. With strict structures, lack of exposure to technologies and little to no focus on practical training, students are unable to upgrade themselves in this fast-growing architecture arena. Thus, the hypothesis that the current curriculum is sufficient can be rejected. We were in need of flexible, responsive and inclusive curriculum reforms that could account for emerging disciplines and new technological advances.

Technological disruptions in architecture, from Building Information Modelling (BIM) to AI, AR, and sustainable construction technologies, have reshaped the very nature of the profession. But many students and faculty members believe they are underprepared digitally. We don't only require technology-driven learning modules and infrastructure to dissolve them into architecture schools, we fundamentally need them to. It will enhance students' practical skills, improve the efficiency of design, and promote innovation in problem-solving.

Faculty struggle to keep pace with the rapidly shifting landscape of industry demands, often because of limited training opportunities and not having exposure to the latest tools. This has resulted in the preparedness of institutions to impart quality education being unequal. It emphasizes on the need of a continuous professional development programme for the faculty, such as industry residencies, exposure visits, certifications etc. to enable them to become change agents for innovation and modern learning.

Transforming classroom learning into workplace experience is a needed practice, but instead reduces internship roles to observational rather than experiential — opening doors and depersonalizing the learning experience. A well-planned, guided, and learning-oriented internship experience can add a lot of value to students. Developing robust guidelines for interns within such a partnership—setting clear learning outcomes, mentorship obligations, and evaluation benchmarks—would go a long way toward improving the readiness for the professional environment of graduates from architecture schools and bridging the gap of transition from academia to the marketplace.

The National Education Policy (NEP) 2020 is an ambitious policy that focuses on flexibility, interdisciplinary and skill development under the new structure. The policy resonates positively among students and faculties, but it has significant room for interpretation about how it manifests, what is deemed successful, and how it caters specifically to the needs of architecture. It underscores the importance of thoughtful implementation, a clear academic framework, and participatory planning led by architectural educators and practitioners in order to ensure that NEP 2020 leads to concrete change.

Multidisciplinary learning is one of the fundamental prescriptions of NEP 2020. Yet, unless such disciplines as urban planning, sociology, environmental science, and digital technology are concretely integrated into architecture education through supportive institutional infrastructure and holistic faculty training, they remain abstract, even philosophical constructs. If holistic education is ever going to become a reality, schools have to reinvent their styles of teaching, establish collaborations between departments, set up credits in such a way that students can co-design their learning journeys.

The industry cannot simply wait and see, rather they must also help inform the architectural education of the future. Among these are curriculum co-design, research project funding, access to digital tools, and mentorship programs. Working with industry professionals can give students a realistic sense of their working environment when they graduate, as guest lecturing, internship mentors and design jury members. They help ensure the learning ecosystem is up-to-date and industry-aligned.

It indicates an increasing familiarity of stakeholders with the soft skills, ethics, sustainability, and cultural context of architectural education. Students need to cultivate communication skills, teamwork competency, emotional intelligence, and ethical reasoning — all of which are outside the narrow realm of technical competency. The integration of these into the curriculum and institutional practices may empower students as well as professionals to invest their energy, working as change-agents through workshops, live projects, and reflection-based learning, to respond to the built environment' in a more holistic manner.

Last but not the least, the architectural education system of India is in a dire need of reforming in a strategic manner which could lead to a growing pyramid of excellence with all the implementing and driving forces, contributing to the development of nation as well as providing the quality Architectural services to the global community. The study highlights a need for enhanced policy implementation, curriculum reforms and better academia-industry linkages. There is a need for a collective action on part of the educational institutions, faculty, industry stakeholders, and policymakers to create a future-ready architecture education system. Only through such integrated action can India create architects who will be not just good designers but socially conscious, technologically aware and professional competent.

# CHAPTER-6

## SCOPE FOR FURTHER RESEARCH

The present research aims to evaluate and classify the contemporary architecture curricula in India and explore models aligned with NEP 2020. The current study, though, does offer relevant perspectives on the existing state of the UG architecture curriculum in India - further research in this area can yield significant results. The findings of this research are limited to the focus of the study of few sample institutions which were from diverse geographical areas so as to have generalized understanding. Further studies could be region specific, which would provide greater insight. Moreover, the research scope can be extended to study the different post graduate architecture programs and specialized courses and analyse if they are keeping up with industry changes. Also, a comparison between public and private institutions may yield additional nuanced insights into curriculum and pedagogy differences. Moreover, further research could examine the long-term career implications of the current curriculum by assessing graduates' professional development and industry transformation longitudinally. Given the rapid pace at which new technologies are emerging, research around the holistic integration of digital tools, AI, and future construction technologies in architecture education could play a critical role in determining what future role the architects would play. Finally, research on the implementation and impact of reform of architectural education policy under NEP 2020 would help in realizing policy outcomes and suggest further improvements, Future research can narrow the gap between academic learning and actual life practice in architecture by working on these issues. The subject offers vast potential for extended inquiry beyond the PhD.

The following areas are identified to represent future directions for research and implementation:

**A. Impact Assessment of Revised Curricula**

i. Conduct longitudinal studies on graduates from schools adopting reformed curricula to assess employability, industry performance, and societal contributions.
ii. Develop an "Architectural Education Impact Index" to measure how curricular reform translates into innovation, sustainability, and practice relevance in Urban development and built environment.
iii. Explore models of adaptive, student-centric, and tech-integrated curricula tailored for architectural education in India.

**B. Policy & Accreditation Framework Development**

i. Draft national guidelines for curriculum reform in collaboration with the Council of Architecture (CoA) and NAAC, ensuring alignment with NEP 2020.
ii. Recommend credit systems, interdisciplinary pathways, and outcome-based education metrics for accreditation and standardisation across schools.
iii. Develop a benchmarking template for schools to assess curriculum relevance and compliance.

**C. Digital Pedagogy & Emerging Technologies**

i. Explore the integration of AI, BIM, VR/AR, parametric design, and generative tools into core design studios.
ii. Pilot "Digital Design Studios" in select institutions and assess their effectiveness in bridging academia–industry gaps.
iii. Develop faculty training frameworks for digital pedagogy and new technology adoption.

**D. International Benchmarking & Collaborations**

i. Compare Indian architecture curricula with global accreditation models (RIBA, NAAB, EAAE) to identify gaps and opportunities.
ii. Design proposals for dual-degree programs, student/faculty exchange initiatives, and joint studio projects to enhance global exposure.

**E. Regional & Vernacular Integration**

i. Formulate a vernacular integration framework for curricula that emphasizes indigenous techniques, climate-responsive design, and cultural heritage.
ii. Create a national repository of vernacular case studies and modules tailored to regional conditions showcasing how vernacular principles can solve modern challenges.
iii. Develop a national repository of case studies to support teaching modules tailored to diverse regional contexts.

**F. Interdisciplinary Expansion**

i. Investigate cross-domain linkages between architecture and urban planning, sustainability, anthropology, construction technology, heritage conservation and public infrastructure policy studies.
ii. Recommend minor/dual-degree options that enable architectural students to develop multi-sector competencies.

**G. Sustainability & Resilience Education**

i. Evaluate how curricula can deepen focus on sustainability, circular economy, disaster resilience, and climate adaptation.
ii. Develop specialized tracks in net-zero buildings, water-sensitive urban design, and ecological regeneration.
iii. Investigate how integration with disciplines like environmental science, sociology, and urban planning enhances architectural pedagogy.

### H. Inclusive & Accessible Architectural Education

i. Research strategies for making architectural education inclusive for Under represented and differently-abled students.
ii. Recommend curricular enhancements to ensure universal design and accessibility principles are embedded in education.

### I. Entrepreneurship & Practice Models

i. Study how architecture programs can embed entrepreneurship, practice management, and real estate development to prepare students for varied career paths.
ii. Propose the establishment of design innovation incubators within schools.
iii. Measure career readiness, employability, and industry performance after curriculum reforms.
iv. Research how structured faculty development programs influence teaching quality and student industry-readiness.
v. Examine the effectiveness of structured, guided internship programs in bridging the academia-industry gap.
vi. Develop and evaluate frameworks for sustained collaboration between professionals and institutions for curriculum co-design, mentorship, and innovation.

### J. Lifelong Learning & Continuing Education

i. Explore frameworks for continuing education programs, MOOCs, and re-skilling platforms for mid-career architects.
ii. Study the need for post-graduate certification programs, continuing education credits, and re-skilling platforms for practicing architects.
iii. Recommend national certification programs for evolving skill needs in the professionals.

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    vi. AICTE Approval Process Handbook 2024-2027
    vii. https://www.aicte-india.org
    viii. SWAYAM & ABC Platform
    https://swayam.gov.in
    https://www.abc.gov.in
99. NBA Accreditation Manual
100. NRF White Paper (2022)
101. GIFT City Higher Education Policy Brief.

# ANNEXURE I – SURVEY FORMS

## Questionnaire -A

## For Faculty Members

Dear Participant,

This questionnaire is part of a research study assessing the relevance of the current undergraduate architecture curriculum in India and its alignment with industry needs. Your responses will remain confidential and will be used solely for academic research purposes.

**Section 1: Demographic Information**

(Please select the appropriate option)

1. **Age Group**

   ☐ 25-35 ☐ 36-45 ☐ 46-55 ☐ Above 55

2. **Gender**

   ☐ Male ☐ Female ☐ Other

3. **Highest Qualification**

   ☐ Bachelor's in Architecture (B.Arch.) ☐ Master's in Architecture (M.Arch.)

   ☐ Ph.D. in Architecture or related field ☐ Other (Please specify) _______________

4. **Total Years of Teaching Experience**

   ☐ 0-5 years ☐ 6-10 years ☐ 11-15 years ☐ More than 15 years

5. **Type of Institution**

   ☐ Government College ☐ Private College ☐ Autonomous Institute

6. **Location of Institution**

   ☐ Metropolitan City ☐ Urban Area ☐ Semi-Urban/Rural Area

7. **Professional Experience in Architecture Practice** (Besides Teaching)

   ☐ Yes, currently practicing alongside teaching

   ☐ Yes, practiced previously but not currently

   ☐ No, only involved in academics

8. **Subjects Taught** (Multiple selections allowed)

   ☐ Design Studio ☐ Building Construction & Materials

   ☐ Architectural History & Theory ☐ Structural Systems

   ☐ Urban Planning ☐ Digital Tools & Computational Design

   ☐ Other (Please specify) _______________

9. **Familiarity with National Education Policy (NEP) 2020**

   ☐ Yes, I am well-informed and understand its impact on architectural education

   ☐ Yes, but I have limited knowledge of its impact

   ☐ No, I am not aware of NEP 2020

10. **Involvement in Curriculum Design/Revisions**
☐ Yes, actively involved in curriculum restructuring
☐ Occasionally consulted for curriculum modifications
☐ No direct involvement in curriculum decisions

**Section 2: Objective Specific Questions**

(Please rate the following statements on a scale of 1 to 5)

**1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree**

**1. Evaluating the Alignment of Curriculum with Industry Needs**

| **Alignment of Curriculum with Industry Needs** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| The current undergraduate architecture curriculum effectively prepares students for industry demands. | | | | | |
| The syllabus adequately covers practical aspects of architectural practice. | | | | | |
| The curriculum provides students with the required knowledge of professional ethics and laws. | | | | | |
| Industry professionals contribute significantly to curriculum design and delivery. | | | | | |
| The course content is regularly updated to incorporate emerging industry trends. | | | | | |
| Topics such as sustainability, smart cities, and digital architecture are well-integrated into the syllabus. | | | | | |
| The curriculum ensures a smooth transition from academic learning to professional practice. | | | | | |
| The skills taught align with employer expectations in architectural firms. | | | | | |
| Students receive sufficient exposure to real-world projects during their studies. | | | | | |
| The institution collaborates effectively with the industry for student training programs. | | | | | |

**2. Impact of Curriculum Rigidity on Adaptability to Trends**

| **Impact of Curriculum Rigidity on Adaptability to Trends** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| The architecture curriculum allows adequate flexibility in selecting electives. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Faculty members have autonomy in introducing new teaching methodologies. | | | | | |
| The syllabus structure enables students to explore emerging fields like AI in architecture, parametric design, and sustainability. | | | | | |
| Rigid course structures limit students' exposure to interdisciplinary learning. | | | | | |
| The curriculum effectively integrates contemporary global architectural trends. | | | | | |
| The institution encourages research-driven learning in architectural studies. | | | | | |
| There is sufficient scope for experimentation and innovative design thinking. | | | | | |
| International best practices in architecture education are incorporated into the curriculum. | | | | | |
| The curriculum enables students to adapt quickly to industry advancements. | | | | | |
| Students have access to competitions, exchange programs, and collaborative research initiatives. | | | | | |

**3. Effectiveness of Practical Training and Skill Development**

| **Effectiveness of Practical Training and Skill Development** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Practical training and internships sufficiently bridge the gap between theory and practice. | | | | | |
| Students gain hands-on experience with architectural modeling, prototyping, and fabrication. | | | | | |
| The use of digital tools (AutoCAD, Revit, Rhino, Grasshopper, etc.) is effectively taught. | | | | | |
| Field visits and live projects enhance the students' understanding of real-world architectural challenges. | | | | | |
| The existing internship duration is sufficient for skill development. | | | | | |
| Soft skills (communication, teamwork, leadership) are adequately emphasized in coursework. | | | | | |
| The curriculum prepares students for professional licensing and certification exams. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Entrepreneurial and self-employment opportunities are sufficiently encouraged. | | | | | |
| Design studio pedagogy fosters creativity and independent thinking. | | | | | |
| The evaluation system effectively measures both technical knowledge and creative problem-solving. | | | | | |

**4. Challenges in Adopting Modern Technologies in Architectural Education**

| **Challenges in Adopting Modern Technologies in Architectural Education** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| The curriculum provides adequate exposure to Building Information Modeling (BIM), AI, and computational design. | | | | | |
| Institutions offer sufficient resources (software, labs, hardware) for digital architectural training. | | | | | |
| Faculty members are well-trained to teach emerging digital tools and technologies. | | | | | |
| There is a significant gap between academia and industry expectations regarding digital competencies. | | | | | |
| Regular workshops and training programs on modern technologies are conducted. | | | | | |
| Budget constraints limit access to advanced architectural software and tools. | | | | | |
| Virtual reality (VR), augmented reality (AR), and AI applications are effectively introduced in coursework. | | | | | |
| The rapid evolution of digital tools creates challenges for faculty in keeping up with industry trends. | | | | | |
| There is adequate collaboration with tech firms for training on digital architecture. | | | | | |
| The curriculum should include more advanced technology-based learning modules. | | | | | |

**5. Role of NEP 2020 in Curriculum Restructuring**

| **Role of NEP 2020 in Curriculum Restructuring** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| NEP 2020 would lead to positive changes in architectural education. | | | | | |
| The policy would encourage a multidisciplinary and holistic approach to learning. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| The new reforms would promote better industry-academia collaborations. | | | | | |
| NEP 2020 would allow for greater flexibility in course design and curriculum updates. | | | | | |
| The emphasis on skill-based education would enhance student employability. | | | | | |
| The reforms would encourage architectural research and innovation. | | | | | |
| The new curriculum would integrate global best practices. | | | | | |
| NEP 2020 would provide more opportunities for internships and industry exposure. | | | | | |
| The policy would help in achieving a better balance between theoretical and practical learning. | | | | | |
| The reforms would successfully address key challenges in architecture education. | | | | | |

**Section 3: Qualitative Questions**

A. What improvements do you think are necessary in the current architecture curriculum?

________________________________________________

________________________________________________

________________________________________________

B. What challenges do faculty members face in integrating modern architectural technologies into teaching?

________________________________________________

________________________________________________

________________________________________________

C. What are your suggestions for making the curriculum more industry-relevant?

________________________________________________

________________________________________________

________________________________________________

## Questionnaire -B

## For Industry Professional

Dear Participant,

This questionnaire is part of a research study assessing the relevance of the current undergraduate architecture curriculum in India and its alignment with industry needs. Your responses will remain confidential and will be used solely for academic research purposes.

**Section 1: Demographic Information**

(Please select the appropriate option)

1. **Age Group**

   ☐ 25-35 ☐ 36-45 ☐ 46-55 ☐ Above 55

2. **Gender**

   ☐ Male ☐ Female ☐ Other

3. **Highest Qualification**

   ☐ Bachelor's in Architecture (B.Arch.) ☐ Master's in Architecture (M.Arch.)

   ☐ Ph.D. in Architecture or related field ☐ Other (Please specify) _______________

4. **Years of Industry Experience**

   ☐ 0-5 years ☐ 6-10 years ☐ 11-15 years ☐ More than 15 years

5. **Current Role in Industry**

   ☐ Architect ☐ Urban Planner ☐ Interior Designer ☐ Project Manager

   ☐ Developer/Builder ☐ Other (Please specify) _______________

6. **Type of Organization**

   ☐ Private Architectural Firm ☐ Government Sector

   ☐ Real Estate/Construction Company ☐ Independent Consultancy

   ☐ Other (Please specify) _______________

7. **Size of the Organization**

   ☐ Small (Less than 10 employees) ☐ Medium (10-50 employees)

   ☐ Large (More than 50 employees)

8. **Have You Hired Fresh Architecture Graduates in the Last 5 Years?**

   ☐ Yes ☐ No

9. **How Frequently Do You Collaborate with Academic Institutions?**

   ☐ Regularly (Frequent industry-academia interactions)

   ☐ Occasionally (Invited for guest lectures/workshops)

   ☐ Rarely (Limited interaction with academic institutions)

   ☐ Never

10. **Familiarity with National Education Policy (NEP) 2020**

☐ Yes, I am well-informed and understand its impact on architectural education

☐ Yes, but I have limited knowledge of its impact

☐ No, I am not aware of NEP 2020

**Section 2: Objective Specific Questions**

(Please rate the following statements on a scale of 1 to 5)

**1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree**

**1. Evaluating the Alignment of Curriculum with Industry Needs**

| **Alignment of Curriculum with Industry Needs** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Fresh architecture graduates possess the necessary technical skills required for industry roles. | | | | | |
| The current curriculum adequately covers practical aspects like site planning, construction techniques, and material selection. | | | | | |
| Architectural education aligns well with current industry demands and professional challenges. | | | | | |
| There is a disconnect between theoretical knowledge and real-world applications in architectural education. | | | | | |
| Fresh graduates are well-prepared for managing project workflows and client requirements. | | | | | |
| The curriculum provides adequate training in sustainable architecture and green building practices. | | | | | |
| The syllabus includes contemporary topics such as smart cities, parametric design, and computational architecture. | | | | | |
| Architectural education effectively integrates global best practices in design and planning. | | | | | |
| Students have sufficient exposure to real-world projects during their academic training. | | | | | |
| Institutions regularly engage with industry professionals to update the curriculum. | | | | | |

**2. Impact of Curriculum Rigidity on Adaptability to Trends**

| **Impact of Curriculum Rigidity on Adaptability to Trends** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| The current architecture curriculum allows for adequate flexibility to adapt to industry advancements. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Students are encouraged to explore emerging trends like AI-driven design, generative architecture, and digital fabrication. | | | | | |
| There is sufficient integration of interdisciplinary learning, including business and entrepreneurship aspects. | | | | | |
| Industry professionals have opportunities to contribute to curriculum updates and reforms. | | | | | |
| Graduates find it easy to transition into new and emerging fields in architecture. | | | | | |
| The curriculum promotes innovation and adaptability in design thinking. | | | | | |
| International trends in architecture education are sufficiently incorporated into the curriculum. | | | | | |
| The curriculum structure allows students to develop specialized expertise in areas such as urban planning or sustainability. | | | | | |
| Graduates require significant additional training to be industry-ready. | | | | | |
| The rigid structure of the curriculum limits creative and experimental approaches in design studios. | | | | | |

**3. Effectiveness of Practical Training and Skill Development**

| **Effectiveness of Practical Training and Skill Development** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Internships provide students with sufficient practical exposure before they enter the workforce. | | | | | |
| The internship duration in architecture education is adequate for industry preparedness. | | | | | |
| Architectural graduates are proficient in the use of digital tools such as AutoCAD, Revit, Rhino, and BIM software. | | | | | |
| Students are well-trained in construction project management and coordination. | | | | | |
| The curriculum sufficiently emphasizes soft skills like client communication, negotiation, and leadership. | | | | | |
| Fresh graduates are equipped to handle regulatory and legal aspects of architectural practice. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| The current evaluation system effectively measures both technical expertise and creative problem-solving abilities. | | | | | |
| Design studios encourage students to explore innovative and experimental design solutions. | | | | | |
| There is adequate emphasis on teamwork and collaboration in architectural education. | | | | | |
| Entrepreneurial opportunities and independent practice are well-supported by the curriculum. | | | | | |

**4. Challenges in Adopting Modern Technologies in Architectural Education**

| **Challenges in Adopting Modern Technologies in Architectural Education** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Graduates are well-versed in emerging digital technologies such as AI, VR, and AR in architectural design. | | | | | |
| There is a gap between the digital skills required in the industry and what is taught in architecture programs. | | | | | |
| Academic institutions provide sufficient resources (software, labs, workshops) for digital training. | | | | | |
| The rapid advancement of technology creates a challenge in keeping the curriculum updated. | | | | | |
| Faculty members are well-equipped to train students in advanced digital tools. | | | | | |
| Industry collaborations for technological skill development are strong. | | | | | |
| There is enough emphasis on parametric and computational design in the curriculum. | | | | | |
| The curriculum prepares students for the increasing role of automation and digital fabrication in architecture. | | | | | |
| More workshops and specialized training programs on digital tools are needed in architecture education. | | | | | |
| The integration of modern technology in education is essential for producing industry-ready graduates. | | | | | |

**5. Role of NEP 2020 in Curriculum Restructuring**

| Role of NEP 2020 in Curriculum Restructuring | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| NEP 2020 would lead to significant improvements in architectural education. | | | | | |
| The policy would encourage greater industry-academia collaboration. | | | | | |
| The reforms would help architecture students gain better practical exposure. | | | | | |
| The policy would promote flexibility in course selection and interdisciplinary learning. | | | | | |
| NEP 2020 would encourage innovation and research-driven learning. | | | | | |
| There would be better integration of contemporary global architectural trends in revised curricula. | | | | | |
| The policy would increase the focus on sustainability and digital tools in architectural education. | | | | | |
| The implementation of NEP 2020 would improve skill-based learning in architecture. | | | | | |
| The revised structure under NEP 2020 would ensure better prepared graduates for professional practice. | | | | | |
| More initiatives are needed to strengthen industry participation in curriculum development. | | | | | |

**Section 3: Qualitative Questions**

A. What key skills do you find lacking in fresh architecture graduates?

________________________________________________________

________________________________________________________

________________________________________________________

B. What changes would you recommend to make the architecture curriculum more industry-relevant?

________________________________________________________

________________________________________________________

________________________________________________________

C. What are the biggest challenges in hiring fresh graduates for architectural roles?

________________________________________________________

________________________________________________________

________________________________________________________

## Questionnaire -C

## For Architecture Students

Dear Participant,

This questionnaire aims to assess the relevance of the current undergraduate architecture curriculum in India and its alignment with industry needs. Your responses will remain confidential and will be used solely for academic research purposes.

**Section 1: Demographic Information**

(Please select the appropriate option)

1. **Age Group**

   ☐ 20-22 ☐ 23-25 ☐ 26-28 ☐ Above 28

2. **Gender**

   ☐ Male ☐ Female ☐ Other

3. **Current Status**

   ☐ Final-year undergraduate student ☐ Recent graduate (Graduated within the last 2 years)

4. **Type of Institution**

   ☐ Government College ☐ Private College ☐ Autonomous Institute

5. **Location of Institution**

   ☐ Metropolitan City ☐ Urban Area ☐ Semi-Urban/Rural Area

6. **Mode of Study (During Undergraduate Program)**

   ☐ Fully Offline ☐ Hybrid (Online + Offline) ☐ Fully Online

7. **Internship/Practical Training Experience**

   ☐ Yes, completed a mandatory internship ☐ Yes, but internship was optional

   ☐ No internship experience

8. **Preferred Career Path**

   ☐ Independent Architectural Practice ☐ Employment in an Architectural Firm

   ☐ Government Sector ☐ Higher Studies (Master's/Ph.D.)

   ☐ Other (Please specify) _____________

9. **Exposure to Modern Technologies (Software & Tools Used During Studies)**

   ☐ AutoCAD ☐ Revit (BIM) ☐ SketchUp

   ☐ Rhino/Grasshopper ☐ Other (Please specify) _____________

10. **Familiarity with National Education Policy (NEP) 2020**

    ☐ Yes, I am aware and understand its impact on architectural education

    ☐ Yes, but I have limited knowledge of its impact

    ☐ No, I am not aware of NEP 2020

**Section 2: Objective Specific Questions**

(Please rate the following statements on a scale of 1 to 5)

**1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree**

1. **Alignment of Curriculum with Industry Needs**

| Alignment of Curriculum with Industry Needs | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The current architecture curriculum prepares students for real-world industry challenges. | | | | | |
| The syllabus includes sufficient exposure to practical aspects of architectural practice. | | | | | |
| The course structure effectively balances theory and practical knowledge. | | | | | |
| The curriculum provides adequate knowledge about professional ethics and laws. | | | | | |
| Industry professionals actively contribute to academic training. | | | | | |
| The curriculum is regularly updated to reflect industry advancements. | | | | | |
| Emerging architectural trends such as sustainability and smart cities are covered adequately. | | | | | |
| The transition from academic learning to professional practice is seamless. | | | | | |
| The skills acquired during the program match employer expectations. | | | | | |
| Industry-oriented workshops and guest lectures help bridge the academia-industry gap. | | | | | |

**2. Impact of Curriculum Rigidity on Adaptability to Trends**

| Impact of Curriculum Rigidity on Adaptability to Trends | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The curriculum allows flexibility in choosing electives based on emerging architectural fields. | | | | | |
| Architectural education encourages innovation and experimentation. | | | | | |
| Outdated concepts and theories are promptly replaced with modern trends. | | | | | |
| The rigid structure of the syllabus restricts exposure to interdisciplinary studies. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Self-directed research and project-based learning are encouraged. | | | | | |
| Faculty members integrate the latest architectural trends in their teaching methods. | | | | | |
| Students have opportunities to participate in competitions, hackathons, and design challenges. | | | | | |
| International best practices in architecture education are incorporated into the curriculum. | | | | | |
| The curriculum enables students to adapt quickly to evolving architectural technologies. | | | | | |
| Opportunities for interdisciplinary learning (e.g., urban planning, AI in architecture) are sufficient. | | | | | |

**3. Effectiveness of Practical Training and Skill Development**

| **Effectiveness of Practical Training and Skill Development** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Hands-on training, model-making, and prototyping are emphasized in coursework. | | | | | |
| Architectural software and digital tools are well-integrated into the curriculum. | | | | | |
| Field visits, live projects, and case studies enhance learning experiences. | | | | | |
| The mandatory internship period is sufficient for practical skill development. | | | | | |
| There is adequate exposure to construction techniques and on-site practices. | | | | | |
| Soft skills (communication, teamwork, leadership) are well-developed during studies. | | | | | |
| The curriculum prepares students for licensing exams and professional certifications. | | | | | |
| Entrepreneurial and independent thinking skills are encouraged. | | | | | |
| The design studio methodology effectively fosters creativity and problem-solving. | | | | | |
| The assessment system effectively evaluates both technical and creative skills. | | | | | |

**4. Challenges in Adopting Modern Technologies in Architectural Education**

| Challenges in Adopting Modern Technologies in Architectural Education | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The curriculum provides adequate training in emerging tools like BIM, AI, and computational design. | | | | | |
| Institutions offer sufficient resources (software, labs, hardware) for learning modern technologies. | | | | | |
| There is a gap between academic training and industry requirements for digital tools. | | | | | |
| Faculty members are well-equipped to teach digital and computational design tools. | | | | | |
| There are regular industry collaborations for training on new technologies. | | | | | |
| Online learning resources and digital platforms enhance architectural education. | | | | | |
| Budget constraints limit access to advanced architectural software. | | | | | |
| VR, AR, and AI applications in architecture are actively introduced in coursework. | | | | | |
| Advanced technology-based learning (robotic fabrication, parametric design) is accessible. | | | | | |
| Students face challenges in adapting to rapidly evolving digital trends in architecture. | | | | | |

**5. Role of NEP 2020 in Curriculum Restructuring**

| Role of NEP 2020 in Curriculum Restructuring | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| NEP 2020 would positively influence the restructuring of the architecture curriculum. | | | | | |
| The policy would lead to increased flexibility in course selection and elective subjects. | | | | | |
| Interdisciplinary learning, as promoted by NEP 2020, would enhance architectural education. | | | | | |
| The emphasis on skill-based education under NEP 2020 would benefit architecture students. | | | | | |
| NEP 2020 would promote better collaboration between academia and industry professionals. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| The reforms would encourage research and innovation in architectural studies. | | | | | |
| The new curriculum would integrate global best practices in architectural education. | | | | | |
| Students would be given more opportunities for internships and industry exposure due to NEP 2020. | | | | | |
| The policy would promote an improved balance between theoretical and practical learning. | | | | | |
| NEP 2020 would successfully address major challenges in architecture education. | | | | | |

**Section 3: Open-Ended Questions**

A. In your opinion, what key improvements are needed in the architecture curriculum?:

______________________________________________

______________________________________________

______________________________________________

B. What are the biggest challenges you faced during your architecture education?

______________________________________________

______________________________________________

______________________________________________

C. Do you have any suggestions for making the curriculum more industry-oriented?

______________________________________________

______________________________________________

______________________________________________

# ANNEXURE II

## Certificates of Published Papers


International Journals of Multidisciplinary Research Academy

USA Address: 5913 Warren Ridge Dr, Bakersfield, California, USA - 93313
India Address: 129, NEW GRAIN MARKET, JAGADHRI – 135003
www.ijmra.us email id:- editorijmie@gmail.com, inforijmra@gmail.com

ICV 9.00 for IJMIE and IJMT, ICV 6.19 for IJPSS, ICV 9.00 for IJRSS and ICV 6.96 for IJESM as per IC Journals Master List

## Publication Certificate

Here by awarding this certificate to **Abhay Vinayak Purohit, Ph D Scholar, Department of Architecture, Jadhavpur University, Kolkata** in recognition of the publication of the Research Paper **"A Critical Analysis of the Current Architecture Curriculum in India: Gaps and Opportunities"** in International Journal of Physical and Social Sciences, Vol. 15, Issue 1, Jan 2025, ISSN: 2249-5894, Impact Factor: 6.644, PEER Reviewed. A Monthly, Double-Blind, Peer Reviewed, Refereed, Open Access International Journal.

THANK YOU

WITH REGARDS

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