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EVOLVING CONCERNS IN INDIAN ARCHITECTURAL EDUCATION – A WAY FORWARD NEP 2020

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Abstract

The roots of architecture as a career embedded in the field of arts and sciences. The primary focus of the architectural profession's operational realm is the construction of structures that are meant to be a blend of aesthetics, technology, and the humanities.Buildings are constructed to be as efficient as possible in addition to giving end users a comfortable environment inside. Along with being trash producers, buildings are recognised to be significant energy and resource consumers. Architectural education is experiencing many difficulties due to the rapid growth of institutions, including problems with the quality of instruction provided, the lack of qualified faculty,the proliferation of institutions engaged in architecture, increasing disparity between learning and employment, the difficulties of globalisation and privatization, and the evolution of the architectural language.innovative building materials, construction technology, and architectural education norms and standards, in addition to the regulatory agencies' role The study makes an effort to establish methods and pinpoint best worldwide practises that would aid in creating architecture education more targeted, more quantative and qualitative, more Collaborative, more efficient, and culturally relevant. By supplying qualified professionals to construct a new demand of built environment that is economical, time effective, furthermore it increases user productivity and health in addition to creating buildings that are least energy consumers and advocates of local and global sustainability, it would aid in and promote profession.

Keywords- *Architecture Education, Pedagogy, Architecture Profession, Architect Act, Current Status of Architecture education in India, Role of Statutory body*

1. Introduction

Early Architecture Education in India was dominated by colonial influences which were copied from the European countries. French Beaux Arts coupled with English craft of building were the pedagogy. Indian pedagogy was neither explored nor experimented resulting in imported Architecture bestowed on culturally rich indigenous nation with influences of core Indian, Persian and Colonial presence. The core syllabus in Architecture starts with the History of Architecture with examples from Classical Rome and Greece. It is supplemented with Buddhist architecture spread in Indian sub-continent. French Renaissance, Art deco, Neo-Classicism along with Hinduism and Islamic architecture dominate the history part without proper inquest

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by the students. It's an assimilation process narrated by the teacher and grasped half-heartedly by the students just to pass the exams. If learning is just to pass the exam and get a degree for the license to practise as an architect, the whole gamut of architecture education is lost.

2. Early Architecture Education in India

The first systematic Architecture education started in India in 1913 at Department of Architecture which was earlier under Sir J. J. School of Arts in Mumbai. From 1923 to till date Robert William Cableserved as this school's founding professor and department head. It adopted the French and English pedagogy with the importation of Beaux Arts formal language from France and craft of Building from Britain (Dalvi 2018). After independence the British pedagogy was dropped and the inherent indigenous adopted. Five year full time Diploma in Architecture awarded after 1941 by Sir J. J. school of Architecture remained recognised qualification for registration of Architects under Architects Act of India, 1972 (Architects Act 1972).The Department of Architecture was affiliated to Mumbai University in 1952 and the name was rechristened as Sir J. J. College of Architecture. Claude Batley the editor of Journal of IIA (Indian Institute of Architects) compares Robert William Cable indirectly to Christopher Wren who designed a few buildings of his own in Bombay but many were designed by his students. (Kapadia 1939). It shaped Bombay Art Deco style in 1930's to 1940's. Sir J. J. School has been instrumental in shaping the Architecture of modern India by its alumni spread all over Indian subcontinent including Pakistan and Bangladesh.

Kala Bhawan, Baroda was offering Licentiates in six schools including school of Architecture and Civil Engineering by 1909. Other subjects offered were, School of Dyeing and Chemical Technology,School of Mechanical Technology, School of Weaving Technology, School of Art and School of Commercial Technology. These departments were conceived as schools and workshops giving emphasis both on theory and practical. In these school one third of time was dedicated for theoretical studies and rest for manufacturing operations(Raina and Habib 1991). The degree awarded was Licentiate of Architecture (LCA). The training schedule was on Building Material, Building Construction, Earth Work and Road making Survey (Ibid). The job openings was for surveyors, draftsman, Overseers in PWD and municipalities, independent freelance architects and contractors. Kala Bhawan Baroda was instrumental in transforming traditional craftsman into a modern technician with a theoretical knowledge and scope of innovation. The Maharaja Sayajirao University of Baroda, which had just been established, was connected with it in 1949. It was separated from Fine Arts discipline and was merged with engineering faculty. Kala Bhawan Baroda now called Department of Architecture, MS University lost its identity and it blended with other general school with no unique pedagogy. B. Arch program started from 1952. Diploma holders in Architecture from Kala Bhawan, Baroda were registered with Council of Architecture through a special provision laid in Architects Act of 1972.

Nizam College of Fine Arts and Architecture in Hyderabad began its department of architecture in 1940. It was rechristened and became the Government College of Fine Arts and Architecture in 1956 after the formation of state of Andhra Pradesh. The college was merged into Jawaharlal

Nehru Technical University in 1972. In 1989 the Arts faculty was separated and a separate School of Planning and Architecture was established under Jawaharlal Nehru Architecture and Fine Arts University.The Government College of Arts and Architecture in Hyderabad granted diplomas in architecture until 1959. The Council of Architecture also recognised students who had passed a unique final examination in architecture administered by the State Board of Technical Education in Andhra Pradesh and received a specific certificate.

India's eastern region Bengal Engineering College (now IIEST, Shibpur) started Architecture, Town and Regional Planning Department in 1949. This Institute has a glorious history and the genesis of growth of this Institute needs mention in this article.At Hindu College in Calcutta, the Council of Education, Bengal established Civil engineering courses and a professorship in the years 1843–1844. On November 24, 1856, the Writers Building opened a college of civil engineering with the name Civil Engineering College. The college was affiliated to Calcutta University in 1857. In the year 1865 the first Bachelor of Engineering graduated with just two students. The college was shifted in 1880 to the Shibpur University near Botanical Garden of Howrah and renamed as 'Government College Howrah.The institution's name was changed to Bengal Engineering College, also known as B.E. College, Howrah, in 1921. In 2017 the institute was completely taken by the Central Government and named as Indian Institute of Engineering Science and Technology (IIEST, Shibpur).

Department of Architecture and Regional Planning at IIT Kharagpur was recognized in 1952 with the collaboration of MIT. Prime Minister Sri Jawaharlal Nehru's belief in technology to solve India's problem led to the establishment of this temple of learning at a detention camp in a small town of Hijli in Kharagpur, West Bengal. Jamini Mehta writes about this school.The strength of this school of thought is that it views architecture as an order with clearly stated guiding strategy and the capacity to distil the formal order in the building design through abstractions. At IIT Kharagpur, the pedagogy of architecture has evolved to emphasise rationality and rational accountability of architectural decisions (J. Mehta 2001).

Centre for Environment and Planning (Now CEPT Ahmadabad) started School of Architecture in 1962. CEPT was affiliated to the Hemachandr acharya North Gujarat University at Patan, from 2002-2005. Government of Gujarat incorporated CEPT as University in 2005. This institute is unique in India to give away the fixed curriculum, instead it offers a wide choices of Electives to choose which a student can fill its academic shopping cart. Here the students are sensitive to cultural heritage and the inherited quality of students, not to accept anything without critical reasoning, has championed the institute. The institute has current collaboration with twenty seven global institutes, among which Delft University of Technology, Netherlands, Polytechnic University of Milan, Italy, Swiss Federal Institute of technology, Switzerland etc.

There were several state run institutes offering Architecture Program in sixties and seventies to mention, Government College of Architecture, Lucknow, 1976 (Now Faculty of Architecture, AKTU), College of Engineering, Trivandrum started its Architecture program in 1964, Department of Architecture, Andhra University, Visakhapatnam in 1989. Like many other Architecture colleges, faculty of Fine Arts was separated from Government College of Architecture, Lucknow and it was merged with engineering discipline. To add a bitter taste a

boundary wall was erected at GCA Lucknow to stop the territorial movement of students from one faculty to other! Here special mention is to be made for Architecture program at Bihar College of Engineering at Patna which was established in 1979. This college was sixth oldest technical institute established as a Survey School way back in 1884. Prof Surendra Kumar, a civil Engineer with Master's in City Planning from IIT Kharagpur initiated the Architecture department. With a poor retention of Architecture teachers this department was mostly backed by engineering discipline. Students of this department proclaim to be 'Self-made Architects'. The first batch took ten years to complete the B. Arch program. Prof.Jitendra Singh, the Head of Department (1987-2001), who is recognised as first Architect, Vice Chancellor of Indian University (Veer Kunwar Singh University, Chapra, Bihar) could do little to change the condition of this department. The department was in a dismal condition till 2004 when the institute was converted to NIT, Patna (under Central Government). Today the department boasts of twenty core teachers in Architecture and Planning. It offers two Master's Program in Urban and Regional Planning and M. Arch along with Ph.D. Program.

3. Architect's Act (1972)

With the generous effort of Mr. Piloo Mody (Architect and Member of Parliament), and Ar J. R. Bhalla who was instrumental in writing Architect's Act (1972), this Act came into force from 1st September 1972. Mr J. R. Bhalla was the first president of Council of Architecture. Prior to this no one needed an Architecture degree to practice Architecture. The title of 'Architect' is protected under the said Act and a professional having requisite qualification and registration with Council of Architect will be called 'Architect' in India.

Mr Piloo Mody was born in a Parsee family in Mumbai and studied at Sir J. J. College of Architecture and then Master's at University of California, Berkley. He served in the 4th and 5th Lok Sabha from 1967 to 1970. (1971-1977) and then as Member of Rajya Sabha (1979-83) till his death. His brother Russie Mody was Chairman cum Managing Director of Tata Steel.

Dr Jai Rattan Bhalla (*Padmashree*) was a partner of Stein-Doshi- Bhalla firm in Delhi. The most coveted project of this firm is India Habitat Centre in New Delhi and IIM Bangalore. Dr Bhalla remained the president of Council of Architecture from 1973 to 1983 and again from 1986- 1997. He is the longest serving President till date. He was also the President of Indian Institute of Architects from 1966- 1971 and again during 1980-83 (Palaye 2017).

4. Current Status of Architecture Education in India

There are currently 592 Institutions in India that offer education in Architecture as per (Council of Architecture 2023). Architecture institutions had to face the inspection by both the regulatory body All India Council of Technical Education (AICTE) and Council of Architecture. Recent Supreme Court judgement clarified that the Architecture education will be under the ambit of Council of Architecture (AICTE v. Shri Prince Shivaji Maratha Boarding House's College of Architecture 2005).

Another important decision regarding practise of Architecture, Supreme Court of India clarified that anyone can practise architecture and degree of B. Arch or any other degree is not

essential for carrying out the architecture related works. Under the Architect's Act only the title of 'Architect' is protected. The court was in the view that person cannot be prohibited from performing the work since they are not registered with the Council of Architecture, as the profession of architecture includes a wide range of activities, including architectural design, inspection, and execution. (Council of Architecture Versus Mr Mukesh Goyal and Ors 2020). The students are at crossroads feeling that if anyone can practise architecture then why to spend money and effort for acquisition of degree of Architecture.

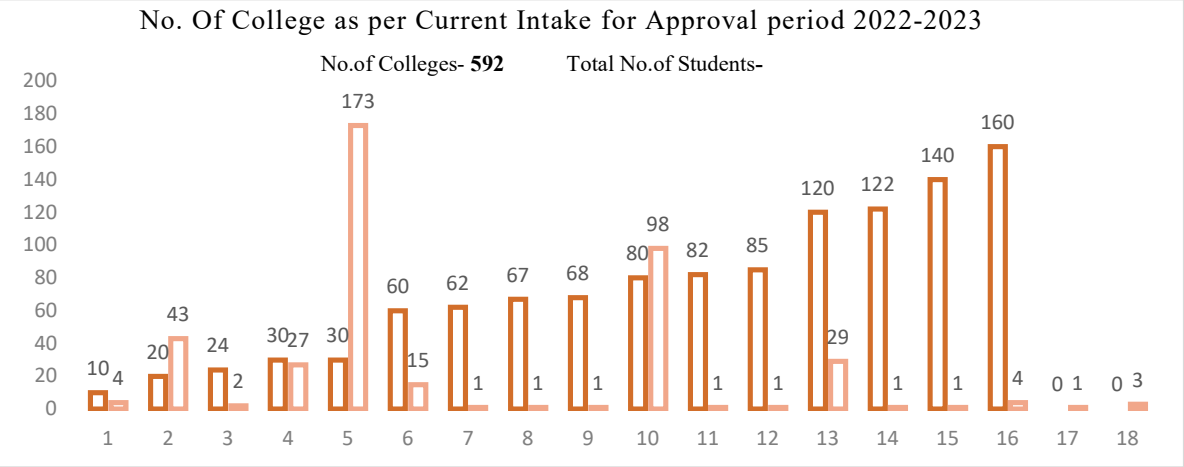

TABLE: STATISTICS OF INSTITUTIONS				
YEAR	NO. OF INSTITUTIONS	NEW INSTITUTIONS APPROVED	INSTITUTIONS CLOSED/PUT ON ZERO INTAKE/RESTORED	TOTAL NUMBER
2006-07	127	10	0	137
2007-08	137	4	2	139
2008-09	139	7	13	133
2009-10	133	25	6	152
2010-11	152	27	-7	18
2011-12	186	60	12	234
2012-13	234	67	-1	302
2013-14	302	35	0	337
2014-15	337	52	10	379

2015-16	379	64	20	423
2016-17	423	33	-2	458
2017-18	458	22	12	468
2018-19	468	20	11	477
2019-20	477	15	29	463
Source: (Perspective Plan for Growth of Architectural Education in India-COA 2020)				

Figure 1 No.of Colleges as per Current intake for Approval period 2022-23
Source: Author

According to the handbook of professional documents released by COA in 2005, there will be close to 592 architectural colleges offering undergraduate degrees in India in 2022, up from 117 in 2005. By any standard, its growth rate is astounding.Due to the privatisation of higher education institutions, the situation for architecture education is challenging.
From the academic year 2006–07 (empty seats 9.06%) to the academic year 2019–20 (vacant seats 36.25%), the number of open seats at institutes has significantly increased. This has put financial pressure on the institutes, which has resulted in fewer faculty hires and a decline in teaching quality.

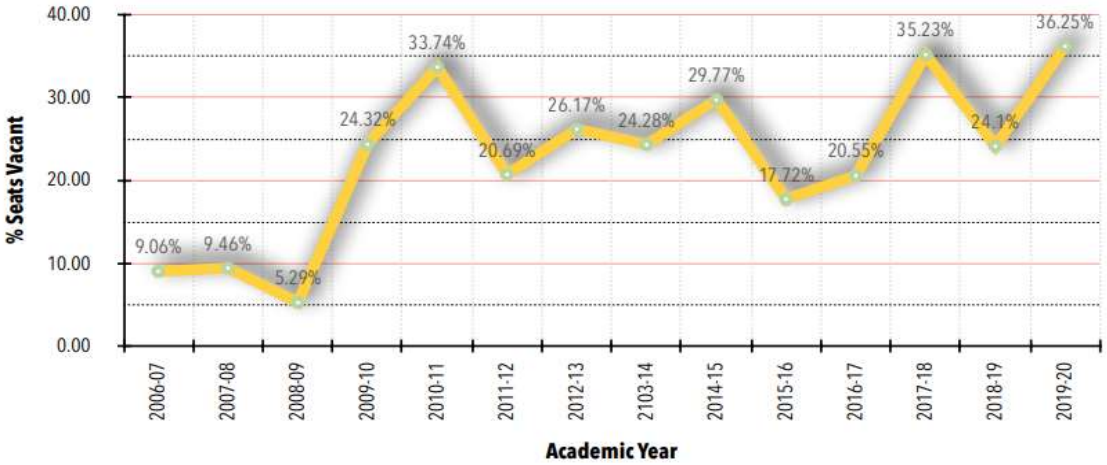

Figure 2 Percentage of Seats Vacant from Academic Year 2006-07

This is another failure on the part of the council. The unreported increase in the number of institutions offering architecture education has also led to an increase in the number of schools with zero intake, which has led to the closure of quite a few institutes.

Source: (Perspective Plan for Growth of Architectural Education in India-COA 2020)

5. Syllabus of Architecture

Council of Architecture provides a prescriptive syllabus with flexibility to the University to modify and adapt the changing circumstances. It is placed in the Board of Studies and approved by the Senate and further by the highest governing body of the University. Very often it's a cumbersome process and it takes a lot of effort to modify the syllabus. Today the states have the exclusive technical Universities which has made the process a bit easier.The comprehensive list of disciplines is built around the criteria laid out in the Minimum Standards of Architectural Education Regulations, 1983, which were developed by the Council of Architecture under the Indian Architects Act, 1972.(Architects Act 1972)Despite the fact that more than 34 years have passed and many changes in society and the requirements of professions, the regulations from 1983 are still in effect. Any education system that wants to survive and develop must be flexible enough to adapt to shifting social, economic, structural, and environmental demands.

Therefore, it is essential that course materials, instructional strategies, and the art and science of knowledge transfer are routinely updated, examined, rationalised, and redefined. For this, a built-in mechanism must be accessible within the system. To ensure its relevance to meet the requirements and goals of society, profession, and the nation, education should offer sufficient freedom, flexibility, and innovations. Additionally, in order to make sure that education remains significant, the academic institutions &universities that have necessary experience, competence, and knowledge must set the boundaries of education.

All of the disciplines on the syllabus either actively or inactively revolve around architecture design. Teaching and learning new subjects must be promoted rather than focusing just on traditional subjects like building construction, building materials, and architecture design.

Type of course	Credits per course	Periods or hours of study per course		No of courses	Total Credits
		Lecture Studio or lab orWorkshop/ seminar			
Lecture	3	3	-	3 / 4	9 / 12
Lab/workshop/ studio exercises/ seminar	3	1	4	2	6
Design project	Can vary from 9 in the lower semesters to 15 in the higher semesters		Varies from 6 to 10	1	Varies from 9 to 15

Source:(Minimum Standards of Architectural Education Regulation 2020)

Forallcourses,studentsmuststudyforaminimumof26hoursperweekandamaximumof30hoursper week.(ii)Eachsemestermustoffernotlessthan26creditsandnotmorethan30credits.Anarchitectura ldesignprojectorthesiscanbe15to18credits.Aminimumof260creditsandamaximumof300credits arerequiredfortheB.Archdegree.Thisstructureisdescriptiveandflexibleenoughforinstitutionstou seasneeded.(Minimum Standards of Architectural Education Regulation 2020)

6. Role of Statutory Body

The Indian Architect Act, 1972, established the Council of Architecture, whose purpose it is to oversee the nation's architectural education. Actually, the majority of the ills that have afflicted the profession have their roots in the way the Council has regarded and governed education.Theresultsoftheminimumstandardsestablishedbytheincludetheopeningofmanyinstitutes,anincreaseinthenumberofadmittedstudents,staffstructure,infrastructure,educationalplans,etc.Council's regulatory role has emphasised encouraging the quantity over the quality of education. In order to be recognized, any institution's infrastructure is still more important than its faculty, staff, or students' ability to learn. Inspection as a method of raising academic standards is seen more negatively than favourably. The procedure has resulted in the quality of architectural education suffering significant losses. To enhance the quality of education in architecture, council must frequently examine the purpose, subject matter, and scope of the programme.

To create a new, cutting-edge agenda for architectural education, it must collaborate with numerous prestigious colleges and institutions both domestically and abroad. Council must give universities and other organisations the leeway to restructure course curricula and introduce innovations to architectural education. The council shall promote educational research & innovation in order to generate professionals who possess the required level of professional competency. The role and purpose of the inspectors chosen to inspect institutions must be made clear in order to make it more rational and objective. Instead of concentrating on the institute's facilities, they should concentrate more on the quality of the education provided. By establishing an interactive platform, the Council of Architecture must work closely with the Indian Institute of Architects and esteemed experts to ensure that architectural education meets the needs of the profession as a whole as well as the communities, society, and country.

The 1983 minimum educational standards need to be examined, rationalised, clarified, and updated to make them more objective.Through a thorough collaborative process including prestigious educational institutions, illustrious experts, and research into worldwide trends and patterns in architectural education, the profession can address developing demands at local and global levels.When taking into account the overarching goal of raising educational standards, it is also important to review the regulations' aim and content on a regular basis.Enough leeway must be provided for architects in order for them to address the needs of the complete built environment. The Council will continue to play a crucial role in advancing the profession and promoting/enforcing educational quality.The council must create a strategy to build centres of excellence in architecture around the country as models for architectural education in addition to addressing the significant issues and challenges facing education.The Council's approach and operational mechanism must be examined and redesigned in order to produce a body with the necessary degree of ability to manage and progress the profession and education, but the Council's structure, structure, aims, role, responsibilities, method of properly working, region of execution, etc. also need to be modified.The function of the Council must change from that of a regulatory authority to that of a mentor, counsellor, and facilitator in order to make architectural education the most fruitful, effective, high-quality, and reasonable.

7. India's architectural education faces significant challenges.

Language barrier: Because English is still the only language used to impart architectural education, understanding the fundamentals and minutiae of a profession's education can be a nightmare for many students who come from remote and rural areas where English is not the primary language of instruction.
The difficulty of a faculty scarcity: Due to the rapid growth of architectural institutions, rigid standards, and a high student enrolment, there is a persistent shortage of qualified professors.
The difficulty of little exposure to actuality: Since the majority of education is classroom-based, students have little experience to the reality and difficulties of the industry, which causes many issues when they graduate and look for work.

Challenge Faced by lack of Industry-Academic Collaboration: Due to a lack of industry-academic interaction, most teachers are recent graduates without practical experience, there is always a gap between the two, which causes a mismatch between the educational focus and the demands of the industry.

Employability challenges: Due to the poor quality of their education, the majority of graduates from institutes of architecture encounter difficulties finding respectable and well-paying employment.
Numbers present a challenge: It is unable to carry out quality development in education because to the large approved student intake, severe faculty shortage, and scarcity of jobs for practical training.
A challenge posed by the dominance of engineering is that there are few chances and options for chartering independent paths of architectural education because the bulk of architectural institutions are parts of engineering institutions.

Challenges brought on by the length of the course: The undergraduate architecture programme lasts five years, while the engineering program lasts four, so most students transfer from engineering to architecture

Issues raised by regulatory bodies: The quality of architectural education has declined due to rigid and out-of-date rules and regulations, unhelpful attitudes, a lack of objectivity, the politicisation of education and professions, irrational inspection mechanisms, Rather than focusing on educational quality, infrastructure is promoted above all else, irrational decision-making occurs, malpractices are prevalent, and regulatory authority structures are illogical.

Problems with the instructional approach; Focusing on the instructor rather than the student, the current educational/teaching system continues to be input rather than output based, on product rather than process, and on teaching rather than learning, which excludes students from the learning process.

6. The Way Ahead

It is imperative that the CoA review the architecture programme and work to bring it in line with worldwide standards as a result of the rising concerns regarding the quality of education and the scarcity of faculty members who can educate. Before they continue to add new schools, the CoA needs to rejuvenate the system. The first step would be to thoroughly examine the system, seek assistance from the academic and professional communities who are receptive to change, and develop a robust system incorporating technologies and research into the curriculum.

7. Conclusion

In India, architectural education shouldn't merely focus on teaching the necessary technical skills and knowledge to practise architecture but to create those '*Sthapatyas'* and '*Vastuvids*' who could stand in lineage of rich traditional builders, since ancient time and imbibe the cultural values in their creation adhering to the sense of regionalism along with modern techniques and material reinforced with strong global practises. The basic question comes… Can both the regionalism and global Architecture simultaneously co-exist? This Question every fledgling architect should try to find out in the course of their practise. To evaluate the scope of architectural education judiciously and tangibly, it has to be moulded for emphasis, relevance, rationality, objectivity, effectiveness, and efficiency. This would necessitate a review of study curriculum and the delivery of education. Currently, the focus of education is primarily on the teacher, leaving students in a subordinate position. Due to this, the learning process becomes unidirectional or unbalanced, and the student's enthusiasm in learning gradually wanes. Teaching must be a collaborative activity in which both the student and the teacher take an active role in the learning process. This strategy will aid in raising educational standards. Additionally, current architecture education is mostly input-based, with the student serving only as a passive recipient.

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