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RESEARCH ARTICLE

ARCHITECTURE STUDENT'S PERCEPTION ON RATIONALE OF ARCHITECTURAL THEORY IN PROFESSIONAL PRACTICE

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ABSTRACT

This paper intends to show case the results of a survey conducted among the students of architecture in India, to understand their perception of Architectural Pedagogy in Professional Practice. We are trying to understand the Rationale of Application of Theory Inputs in Architectural Practice. This survey shows the aspects that requires attention in the architectural education in student's opinion.

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INTRODUCTION

The survey has been conducted parts of the country, For simpler understanding of the trends in different parts of the nation, country has been grouped under 5 regions namely North, South, East, West and Central. An online Question aid survey was conducted using google forms platforms. About 160 responses were recorded across the country. There are 471 architecture schools across the nation. The population that we are addressing in this survey accounts to approximately 1,42,000 students. Considering a 8% marginal error the required calculated sample size is 150. We have recorded 160 responses as part of the survey. This survey is conducted as part of doctoral research on "Rationale of Application of Theory Inputs in Architectural Practice" under the guidance of Prof. Dr. D. Vijay Kishore, Vice Chancellor, Dr.YSR Architecture and Fine arts University, Cadapa, Andhra pradesh, India. India Responses recorded and observations made for each question are presented below. Responses recorded from various regions across the country Southern region of India record to have highest number of institutions with western region in the second place followed by the Northern part of country. Eastern and the Central regions find a smaller number of institutions in comparison to the other parts of the country. (Reference: Council of Architecture records).

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Responses recorded (figure1) from each region are as follows

- Northern region -16.9%
- Southern Region – 29.4%
- Eastern region –15.6%
- Western Region –22.5%
- Central region –15.6 %

Establishment of architectural institutions in past 20 years and Category of students who corresponded to the Survey. There was a sharp increase in number of architecture institutions in past Decade. This phenomenon is established through various surveys and records. (reference: Council of Architecture records) the result of the question in the survey corresponding to the age of the institution the student belongs to, also aligns with the above statement (Figure 2). Major target group who can define the real scenario of the significance of architectural pedagogy in the professional practice are the final year graduation students who are stepping into the world of practice and the graduate students with one to two years of experience, as they are the ones who are under the process of transition into professional environment from the academic environment.(Figure 3)

Design Studio Approach: With rapidly evolving technology and changing global context architects are expected to have a multidisciplinary approach towards the design which integrate the solutions with various other aspects such as

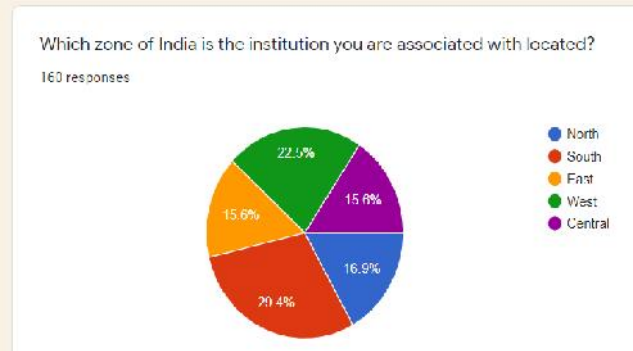

Figure 1. Responses from different zones of India; Source: research question aid survey, December2019-January2020, Google Forms

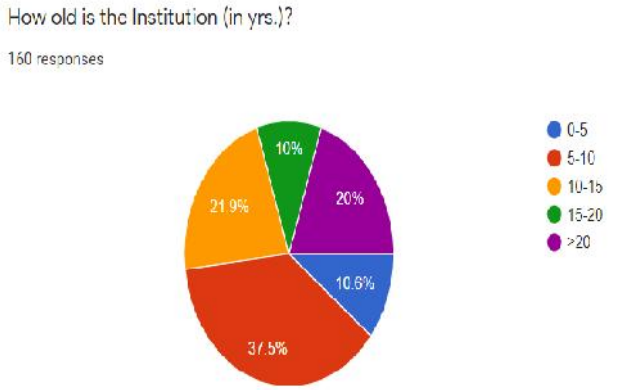

Figure 1. Age of the Institutions; Source: research question aid survey, December2019-January2020, Google Forms

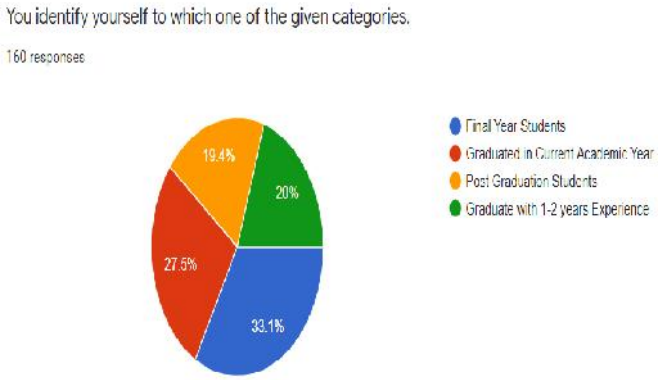

Figure 2. Category of students participated in the survey; Source: research question aid survey, December2019-January2020, Google Forms

technology, Structure, economy, culture, climate change etc… in students perception the academic design studios lay more emphasis on factors such as presentation skills, creative exploration, environment responsive aspects and construction technology. Whereas socio-economic aspects, building services and structural systems take a back seat (Figure 4). About 64.4% of the students work towards a design solution by thinking, understanding, and analysing the nature of the project but still a 34.4 % of students try to arrive at solution by viewing the project in the studio instructor's perception. This trend needs a slight shift as it does not help the student to explore while limiting them to a single perception. (Figure 5).

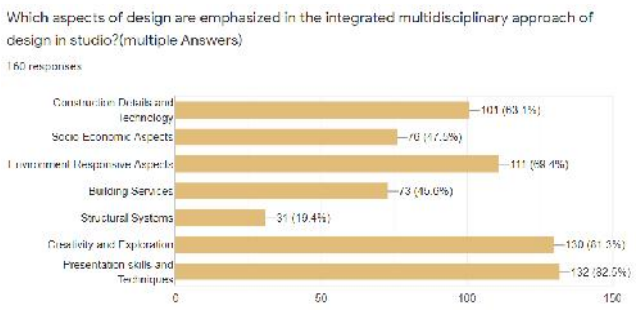

Figure 4. Multidisciplinary aspects that are emphasized in the design studio; Source: research question aid survey, December2019-January2020, Google Forms

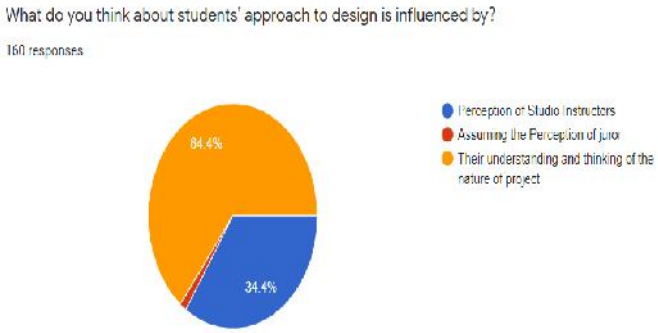

Figure 5. Factors influencing the student's approach to design; Source: research question aid survey, December2019-January2020, Google Forms.

In student's opinion there are two major subjects that need emphasis in the curriculum primary choice is advanced construction and technology, secondary choice being socio-economic and financial aspects of design. Third major aspect that require emphasis in the curricula is digital architecture (Figure 6)

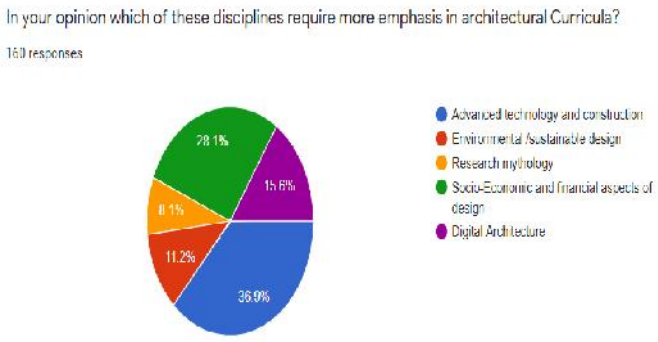

Figure 3. Discipline that requires emphasis in architectural curricula ; Source: research question aid survey, December2019-January2020, Google Forms

Discussions about design studio problems being different from the design problems in the real-life setting is talked about in the recent decades. This perception seems to remain same in today's generation students as well. About 36.3% of students express the same. Second major design concern is found that Not much emphasis is laid on research activity which in turn lowers the pace identifying the real problems and finding efficient solutions to it. About 18.8% of students feel that design is mostly limited to schematics and conceptual stages which hinders their progress to achieve concrete, practical and efficient solutions.

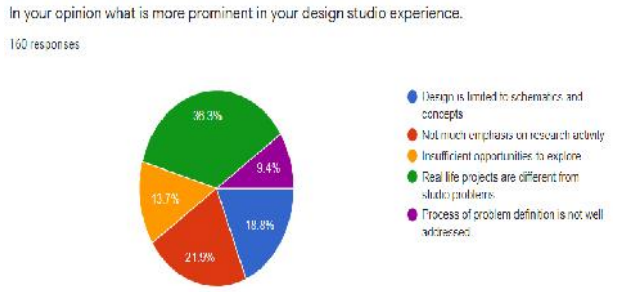

Figure 4. Prominent design studio experience; Source: research question aid survey, December2019-January2020, Google Forms

Minor sector of students feel that they have insufficient chances to explore. (Figure 7). Learning processes can be classified under various techniques namely Creative thinking and experiential learning, digital technology and virtual design pedagogy, critical enquiry and empirical making in studio, Process oriented design pedagogy from theorization to implementation. Out of these ways survey shows that majority of students prefer the digital technology and virtual pedagogy process. Next preferred process being Creative thinking and experiential learning with Process oriented design pedagogy from theorization to implementation being the least preferred process. Virtual design pedagogy brings designer closer to the probable real life setting of the project which helps produce more workable and accurate solutions. (Figure 8)

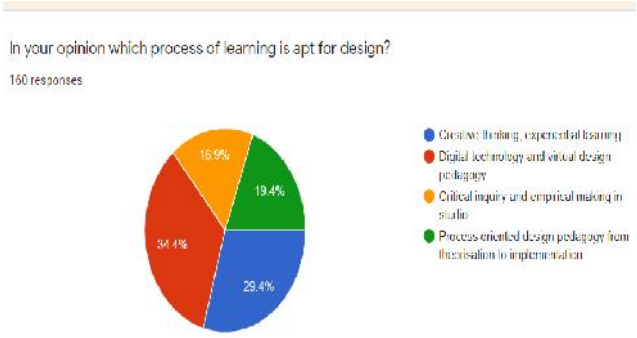

Figure 5. Learning process apt for design; Source: research question aid survey, December2019-January2020, Google Forms

Array of Opportunities for architects: Architecture has a wide scope of opportunities that can be mastered after achieving the graduate degree. There are many micro specialities that are a continuation to architecture but are highly specialised fields with an eye towards advanced technology. It is noticed that majority of the student force do not limit themselves to be architects but to specialize in prospective fields. Architecture, planning was usual scope of direction that architects preferred which is currently finding a drastic shift. The survey shows increasing demand for higher studies in environmental and sustainable design is most preferred direction. Sustainability and climate change require high attention in current world scenario. About 25.6% of them prefer choosing other creative fields.(Figure 9) These include animation, digital architecture, industrial design, product design etc..

Skill development activities: To keep up with the current world of practice students require a lot of skill development activities apart from the regular lectures and studios.

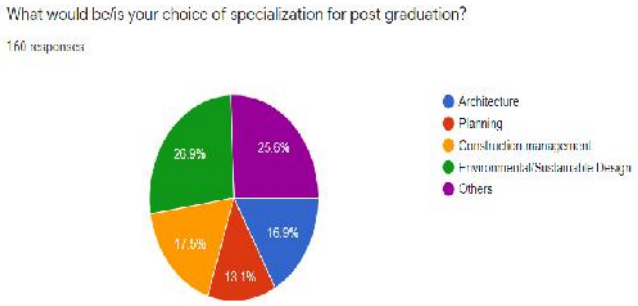

Figure 6. Choice of specialization in postgraduation; Source: research question aid survey, December2019-January2020, Google Forms.

These development activities which guide them a long way include participating in workshops/Conferences, writing articles or papers etc.. most important of these are study tours which enable students to understand various facets of design that change with change in region, climate, culture, philosophy etc. these tours also teach them adaptability and help them in their personality growth. The survey shows a clear lack of efforts in these directions. Research and writing is a very little encouraged activity with about 77.5% of students not attempting to author or co-author a paper (Figure 10).

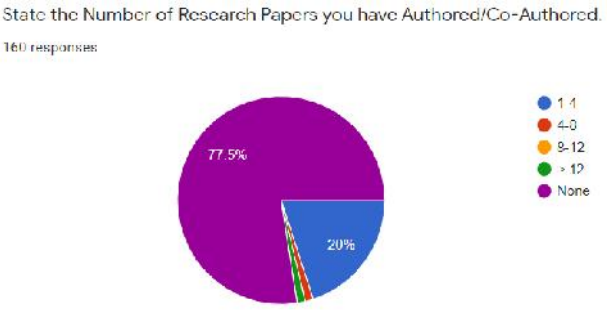

Figure 7. Research papers authored by student; Source: research question aid survey, December2019-January2020, Google Forms

Majority of the students (53.1%) state that they have participated in about 1-4 workshops/conferences followed by 31.9% of students claiming to have attended about 4-8 of them. Only 2.5% of them seem to have attended 12 or more workshops/conferences in the span of their course. There is still an 8.8% of the students who have not participated any of them (Figure 11). This trend requires a shift as increased participation in workshops brings them closer to the field of practice and real-life setting.

Figure 8. Workshops/conferences attended by student; Source: research question aid survey, December2019-January2020, Google Forms

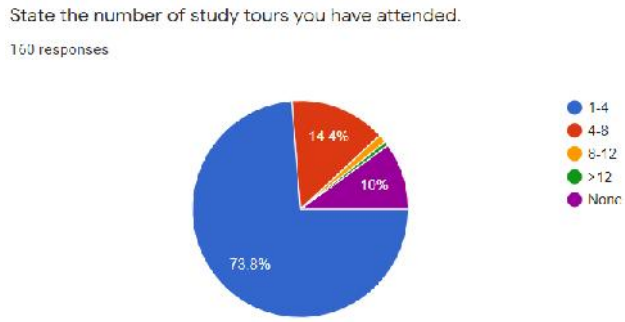

Figure 12. Study tours attended by the student; Source: research question aid survey, December2019-January2020, Google Forms

Study tours being a mandatory in curricula seems to have encouraged students to participate and conduct study tours showing a graph of about 73.8% of students attending up to 4 study tours (Figure 12). 10% of the students claim to have not participated in any study tours requires attention.

Digital skills in architecture: Over the decade there is a strong movement towards digital skills with software's such as AutoCAD, Google SketchUp, BIM, Revit, Photoshop etc.. from manual drafting, modeling, documentation. This shift made work easier, faster, efficient, attractive. It made visualization of the final product more precise and accurate. Schools have been adapting to this change and teaching various software to the students as part f their curriculum but are not able to pace up to the advancement in software skills in the world of practice. Building information modelling software's are gaining proficiency in the construction and design market but is not taught prominently in the schools with about only 7% of students claiming to using it often. Revit which is an extensively used software in firms nationally and internationally has only about only 45.6% of students using it. AutoCAD, Google SketchUp, and Photoshop are the more extensively used software, respectively (Figure 13).

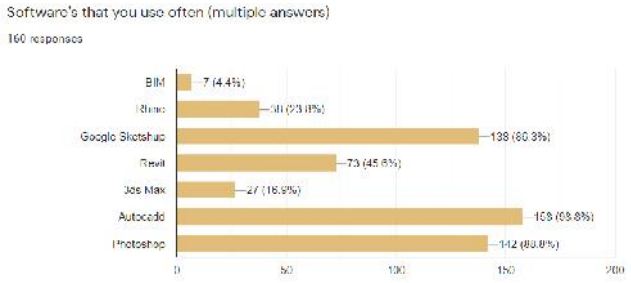

Figure 9. Most often used software; Source: research question aid survey, December2019-January2020, Google Forms

Revit and Building information Modeling software's require more emphasis to pace up with the rapidly evolving digital market. There are three major challenges noticed in the process of learning software (Figure 14). The first and the major challenge expressed was Insufficient or Inefficient Faculty, next challenge observed Is lack of infrastructure and the third challenge being lack of time management and practice by the student.

Professional License: Architecture being a professional field requires a license to practice. The procedure for obtaining license is different worldwide. There are different procedures such as obtaining license with the achievement of undergraduate degree, under Graduate

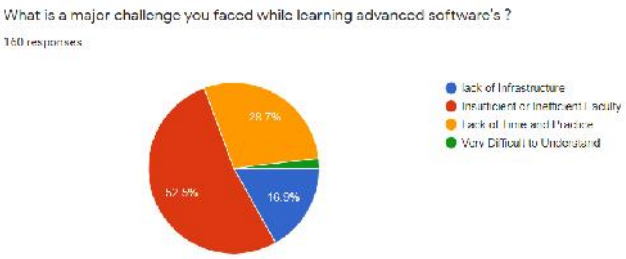

Figure 14. Challenges faced by students in learning digital skills; Source: research question aid survey, December2019-January2020, Google Forms.

Degree and Experience, with attainment of Post Graduate Degree, Post Graduate Degree and Experience, graduate degree and qualifying exam. India follows the system of attaining license with the attainment of the architecture graduate degree. But the student's opinion of the process of licensing shows a different choice as about 45% percent of the students prefer to get official license with attainment of certain experience in practice after completing graduate degree (Figure 15). This choice aligns with the process followed by many other countries.

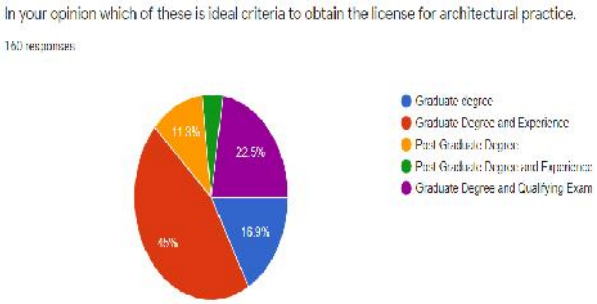

Figure 10. Choice of ideal licensing procedure; Source: research question aid survey, December2019-January2020, Google Forms.

Role of design competitions and live project proposals in process of learning. Participation in design competition prepares students for real life competition and practical scenarios. It lets them assess their capabilities and teach them to over come their shortcomings. It gives them new directions to explore, learn and move closer to the global context. Attempting Design competitions is a very essential part of architecture student life. It is very alarming that about 48.8% of students state to have not attempted any design competitions (Figure 16).

This trend shows that majority of students are confined to a very restricted design environment. while about 50% of them have seemed to attempt few design competitions. Considering live design project proposals as studio design projects give a new challenge to the design process with a real time requirements and constraints. It is very important to have worked on a lot of such projects to enable a smooth transition of students from the academic environment to the professional practice. While majority of the students claim to have worked on such projects there is still a considerable percentage of students (33.8%) stating to have not worked on any such projects (Figure 17). Decrease in this percentage would help decrease the gap between the academics and practice.

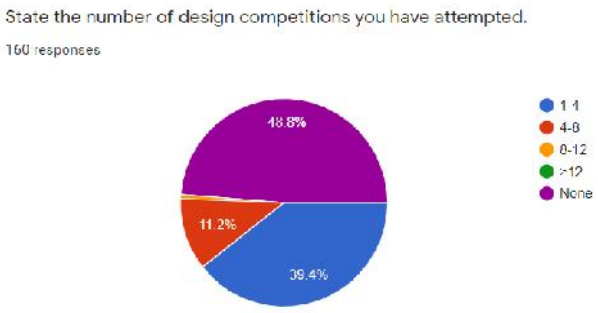

Figure 11. Design competition attempted by student; Source: research question aid survey, December2019-January2020, Google Forms.

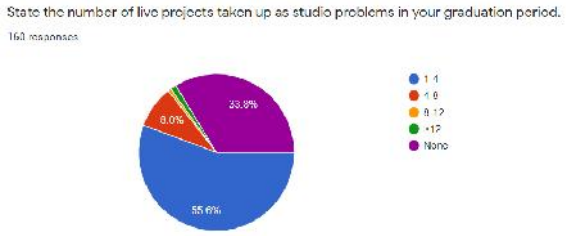

Figure 12: Exposure to live project proposals as part of design studio; Source: research question aid survey, December2019-January2020, Google Forms

Idealogy of an Architect: There are certain perceived ideologies for architects. Namely utopian approach, scientist, humanist, bureaucrat, artist, and activist. Majority of the students follow the ideology of an artist, utopian approach, and a humanist approach. Least observed ideology seems to be that of scientist which aligns well with the decreased emphasis and interest in research and writing (Figure 18).

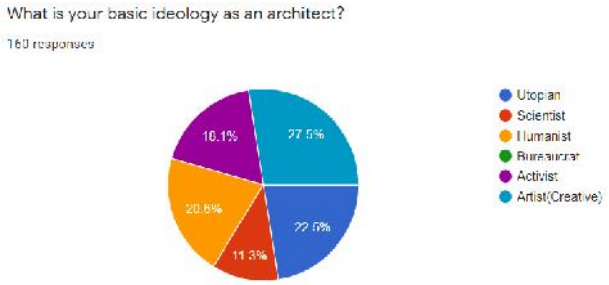

Figure 13. Choice of Ideology of an architect; Source: research question aid survey, December2019-January2020, Google Forms

Observations

There has been a study change in trends noticed in the education sector of architecture to compete and adapt to the global scenario. However, there are certain slacks expressed by the students which on enhancement would help in easy transition into the professional world from the academic environment.

- Certain areas such as skill development through workshops, study tours require more emphasis and current scenario.
- Increase in attempt to design competitions by the students will bring in more exposure and training for the global competitive scenario.
- Adapting more live projects as design studio project gives the experience close to real life setting, time management, real constraints etc… to the students which helps them stretch beyond the academic comfort zone.
- This is an era of digital architecture where digital skills play a huge role in their career path. Training in this area certainly requires more encouragement and support.
- Research and writing are visibly very less explored option. Architecture is a multidisciplinary field that needs timely innovations and explorations which require more researchers who can find innovative and practical solutions. Increase in research activities shall lead us on that path.

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