

## TOWARDS TOTAL INTEGRATION IN DESIGN STUDIO

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### Abstract

Transmission of knowledge has been defined as “bringing the right knowledge by the right route at the right time to the right places.” In this context there is need to analyze the various pedagogical shifts associated with the decisive process of transmission and transaction of knowledge in design studio. Critical understanding of the importance of tangential knowledge and its integration within the design studio, leading to a comprehensive whole, is a significant aspect to be properly evolved and nourished in the studio.

It can be argued that knowledge is not a substitute for architectural imagination but inadequate knowledge would handicap the general level of design. Being satisfied to manipulate formal configurations does not provide insights into the human experience. If the different types of knowledge that architecture requires are ignored, the profession will lose its credibility in the eyes of society. With the body of knowledge expanding diversely with the escalating wants of the user, and

to further sustain the built environment with further progression, it's quite certain to have an innovative design process that has a feel of antecedents yet is nourished by rationalism.

Architectural Design is to an extent the yield of a creative process brought out through a refined approach, skill, and dexterity to suit the purpose. The assessors, the jury, or the teacher has created an aura of mystique around good design, without much explaining what good design is. Architectural education involves application of a theory of knowledge – what is known and how it is to be known. Nothing is taught unless it is learnt (Bono). Does the key to these issues lie in shifting from conventional mode to Total Integration Mode of Education?

### Keywords

Design studio, architectural education, applied knowledge, integration.

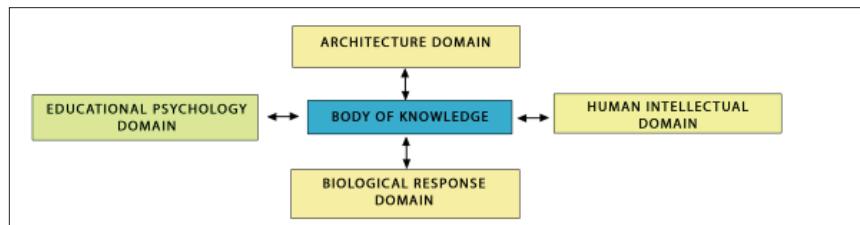


Figure 1: Critical Domains – Body of Knowledge.  
(Source: Authors).

## Introduction: the Studio in Architecture

The Studio in Architecture has held its sway for about a century now. The 20th Century is commonly accepted as the most important period in the development of the human intellect through cultural, moral, and scientific as well as social and religious transformation.

In the early stages, the studio as an analogical learning environment borrowed and adopted the domain of the artist's creative activity space, which was personal in nature. Later, as in most art schools, a master artist imparted his style and technique to the learners who were few in number (Toy). Gradually, the studio was institutionalized to allow more students and more artists to impart mainly the skills of handling the subject of painting, the techniques of the brushwork, and the chemistry of the medium. To a large degree the studios in music and sculpture bore similarities.

The culture of the architecture studio was linked to learning-preparation of drawings from which

buildings could emerge. This approach gradually changed during the movement of Modern Architecture. It is well known how the new masters faced the challenges of the new materials of construction and the emerging new forms. The studio was now transformed from the apprentice to the atelier and then to institutionalized environments for learning architecture design. Practice and the philosophy of the masters infiltrated the studio, as in Bauhaus in Germany (Droste), and to a large degree jeopardized the established means and methods. Study of new building materials, techniques of their application, and influence due to market forces along with the concern for rationalism seemed to dominate the designers mind more than the romanticized approach of the earlier days. In recent years globalization has brought about a number of radical changes that are offering new pedagogical challenges and possibilities.

The studio today in most architecture schools had successfully produced portfolios of drawings – not necessarily design. It is more fragmented than amalgamated. Fragments have become

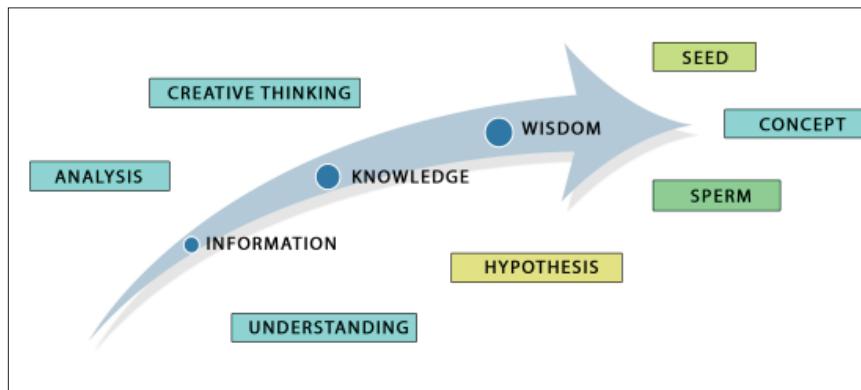


Figure 2: Desired yield from transmission and transaction of learning. (Source: Authors).

a domain for the studio teacher – leading to the loss of the comprehensiveness of the design studio (Deshpande, D is for Design). The usual scenario of evaluation of Learning Process in the design studio of a student is often limited to the End Product/Portfolio appraisal and criticism by a panel of experts. “What” the student has assimilated throughout the tedious years of transmission and transaction of learning is often not properly understood.

As we all know, design is an iterative process, involving research, , and the integration of knowledge. It takes time, space, and careful mentoring to acquire the practical and mental agility, the complex interaction of skills, knowledge, and creativity that is central to the practice of architectural design. What of studio culture? How does one start to define such a thing?

### Total Integration

Disproportionate focus on design as a product rather than a process is a cause for academic concern. This situation has arisen in the design studios due to the lack of understanding of the critical linkage between the essentials of design studio: the conception of architecture design, the design process, and the teaching

style (Wilkinson). It has been our practice to split architecture study by subject that forms the core--the technical and the humanities streams. Architectural design, per se, is not to be seen as a subject of study by itself, but an opportunity to bring together into a comprehensive whole the subject matter and knowledge acquired from peripheral area of study. If we accept Design as the soul of learning architecture – it is omnipresent. It has no physical existence, but like the human soul is present only as a “spirit.” One can dare say therefore, that “Design” is the result of a process of integration of the real and the palpable material that is provided by other areas of study that are essentially of an applied nature and the emotive response of the learner. As such, Design ought to be seen not as a “subject” of learning but an application of what is learned from support subjects to Design. The studio is like a crucible where all applied knowledge and the essentials of design melt into each other to obtain a unified whole. This is what we call as the “Total Integration.”

This is what Mies attempted within the vast space of the Crown Hall. Although the idea is decades old – it can be acceptable in principle. If the studio as a vehicle has to deliver architecture, then it could be what Gropius called “Total Architecture.” Every teacher can be treated as a

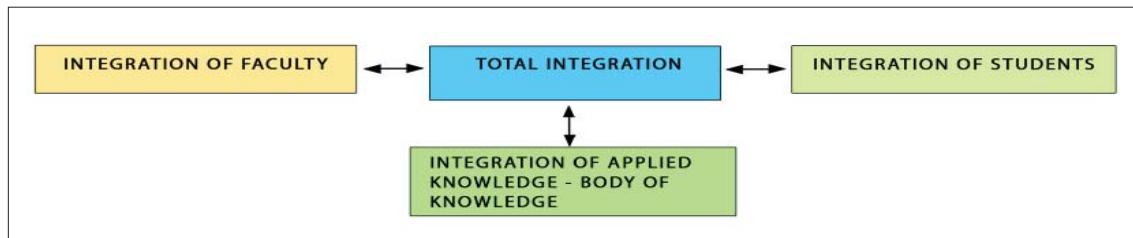


Figure 3: Critical Domains – Total Integration..(Source: Authors).

“design teacher,” contributing to the integration of the cognitive domain of adjunct subject at various levels of teaching. The concept of an integrated studio for the realisation of “Total Architecture” is not necessarily new, but an innovative approach is needed to be adopted in its implementation (Deshpande, I Studio). The rigid format that has been established and followed today in many schools must loosen up. But we can derive some solace from the universal English proverb “Old order changeth yielding place to the new.”

Transition is a historical phenomenon. It is important because it links the previous with the next. The present is always transitory. We have experienced such transition. It is with retrospection that we evaluate the present. There is that uncanny feeling that our studios do not foster creativity. In fact, the studio might actually be suffocating it (Badrinarayan). True as it may be, our studios are fragmented, isolated, irrelevant, soulless, and whatever spirit that may have remained is gradually evaporating. Transition as a process of change indeed can be excruciating. Ignoring the winds of change will result in our adopting the action of an ostrich! This transition could be based on a unique and innovative approach:

- Methodology should be a practical way of following a process, a movement from a known beginning to an unknown end.
- In design process one is always trying to restructure concepts – one is continually having to generate fresh approaches.

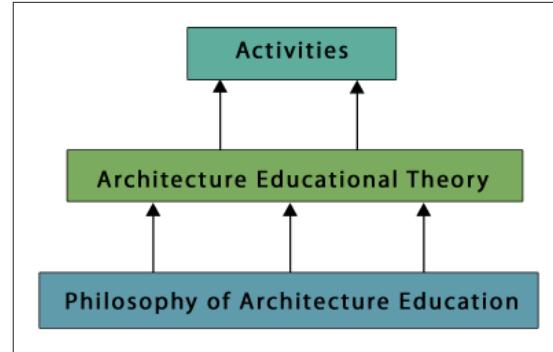


Figure 4: Split Structure --Architectural Education (Source: Authors).

### Integration of Students

Architecture pedagogy has been a complex process since initiation of formal education modes. Educators have focused heavily on theories of design that determine these methods. Philosophical, theoretical, and practical issues have played a pivotal role in determining the right process to be implemented in a particular context and the same updated with time by the introduction of various new domains of bodies of knowledge into the architectural pretext. But the paradox of the issue is the lack of understanding of the levels of transition in maturity levels of the learner during the stages/ duration of the architectural study program and the psychological and emotional impacts on the process of integration of knowledge (Educational\_technology).

Pedagogy is derived from the Greek word “paid” meaning “child,” plus “agogos,” meaning “leading,” therefore defined as the art of leading and teaching children. The pedagogical

model is a content model concerned with the transmission of information and skills, where the teacher decides in advance what knowledge or skill needs to be transmitted and arranges a body of content into logical units, selects the most efficient means for transmitting this content (lectures, studio work, readings, laboratory exercises, films, tapes, for example), then develops a plan for the evaluation of learning by the learners. Pedagogy is a teaching theory, rather than a learning theory, and is usually based on transmission.

Andragogy is derived from the Greek words "anere," meaning "man," and "agogos," meaning "leading," and is used by adult theorists and educators to describe the theory of adult learning. Learning theory is usually based on transmission. Theories of transmission work on the basis of filling deficits in student knowledge and comprehension of their environment, while theories of transaction work on the basis of addressing the immediate, practical needs of context-dependent learners (Alexander\_Kapp).

Offering an alternative to pedagogy, the andragogical model considers the following issues to be addressed in the learning process: allowing the learner to know why something is important to learn; showing the learner how to direct themselves through information; relating the topic to the learner's experiences – individuals will not learn until ready and motivated to learn; and finally, a need to have a life-centered, task-centered, or problem-centered orientation. The andragogical model was conceived by Knowles (1984) and is predicated on five basic assumptions about learners, all of which have some relationship to our notions about a learner's ability, need and desire to take responsibility for

their learning (Malcolm\_Knowles):

- *Self-concept:* As a person matures his or her self-concept moves from one of being a dependent personality toward one of being a self-directed human being.
- *Experience:* As a person matures he or she accumulates a growing reservoir of experience that becomes an increasing resource for learning.
- *Readiness to learn.* As a person matures his or her readiness to learn becomes oriented increasingly to the developmental tasks of his social roles.
- *Orientation to learning.* As a person matures his or her time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem centeredness.
- *Motivation to learn:* As a person matures the motivation to learn is internal (Knowles 1984:12).

This is in sharp contrast with pedagogical teaching, where the concern is with transmitting the content; in andragogy, the concern is with facilitating the acquisition of the content. Andragogy requires adult learners to be involved in the identification of their learning needs and the planning of how those needs are satisfied, and learning should be an active rather than a passive process.

Andragogy is based on a transactional process of design where the teacher manages "... a process for facilitating the acquisition of content by the learners" and serves "as a content resource (who can) provide leads for other content resources" (Knowles, 1980).

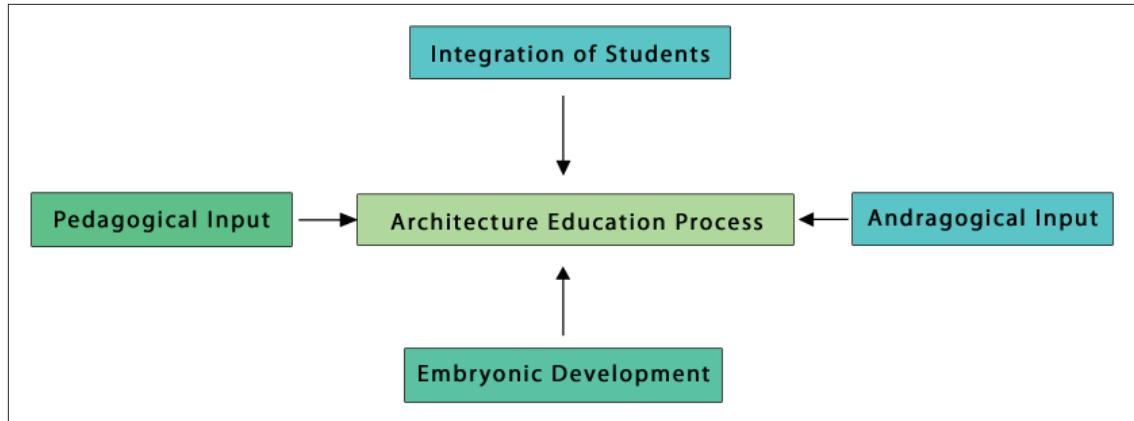


Figure 5: Integration of Students – Critical Components. (Source: Authors).

A proper realization would help in modulating the change as per present/future requirement. What is needed is a unique process to bring about integration of students during various stages of learning, a process catering to and understanding the overall development of the learner as he/she progress in age with the stages/duration of the program. This holistic approach would lead to the realization of this domain related to students, as part of Total Integration in all its glory.

### Integration of Faculty

Design is the core subject, accounting for 40% or more of the teaching time (Minimum Standards 1983). It is the main stream of architecture studies into which other subject streams are said to converge. In terms of the weight of marks it, too, is the heaviest. Even the philosophy of a school is seen through its attitude to design teaching. It may even have

the honor of being the most widely discussed. Its syllabus is also written in a way that makes impressive reading, but gives the least direction to a new teacher on how to teach it. In fact, the position at some top schools is that design cannot be taught.

The design issues to be dealt with in the studios is often generated in an unsystematic manner. By and large, design problems are set in an "off-the-cuff" manner. The visiting studio master attempts to incorporate current projects that she or he is involved in as the design focus without taking into account the activities carried out in the previous design studio, while the full-time critic evolves design issues in a pragmatic manner, resulting in a puzzled transition state of mind when a student moves ahead in his or her studio ranks. This tedious process of initiation of the design issue is backed by evaluations of works of the students by the jury panel. Thus the design issue slowly transforms into design ultimately,

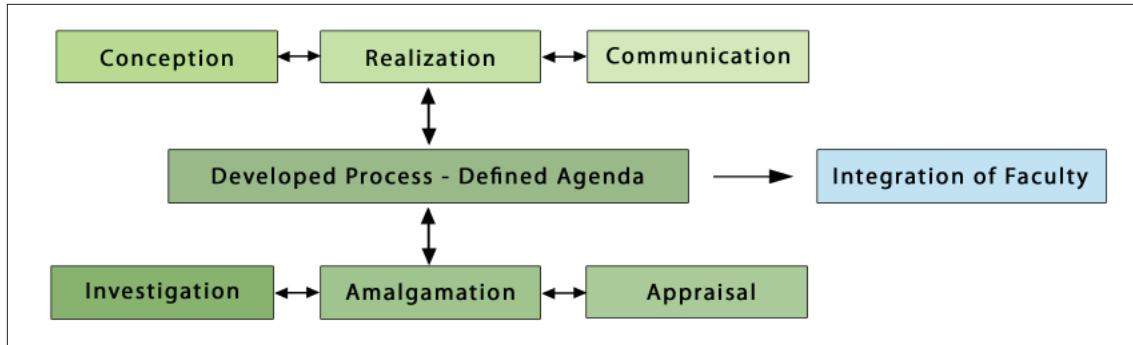


Figure 6: Integration of Faculty- Critical Components.. (Source: Authors).

duly assessed, and returned. The faculty assumes that transmission and transaction have successfully taken place. If a few of us can say that this is not how we teach design, it only shows how true it is.

Molding a learning process requires a dedicated group of faculties working within the framework of a carefully developed pedagogy that teaches a body of knowledge. Students would benefit from a strongly developed sense of increasing competence and the ability to learn, from being productive in design and problem solving, and from understanding their work within a framework of a larger body of knowledge. Students and faculty alike would benefit from an agreed-upon and explicit body of knowledge and pedagogy that provides the basis for constant improvement. Such a process would initiate an series of activities that unites the faculty members and the transmission/transaction process to deliver a "whole" rather than broken up fragments. Leading to the realization is Integration of

faculty as part of Total Integration.

### Integration of Applied Knowledge – Body of Knowledge

The most critical domain; Integration of Applied Knowledge – Body of Knowledge is vital for establishing the pillars of education process – Curriculum, Pedagogy, and Assessment.

Framing, adopting, and implementing a Universal Comparative Approach with a focus on regionalism could become the area of revitalization and thought at various schools of architecture. The main thrust of such an approach should be towards international proficiency and achieving minimal competence, rather than producing a few genius architects. Architectural education is a sub-domain of education technology and associated with the entire spectrum of human activities. The awareness of inputs of educational technology and biological response of the learners would elevate studios to greater heights of practicability.

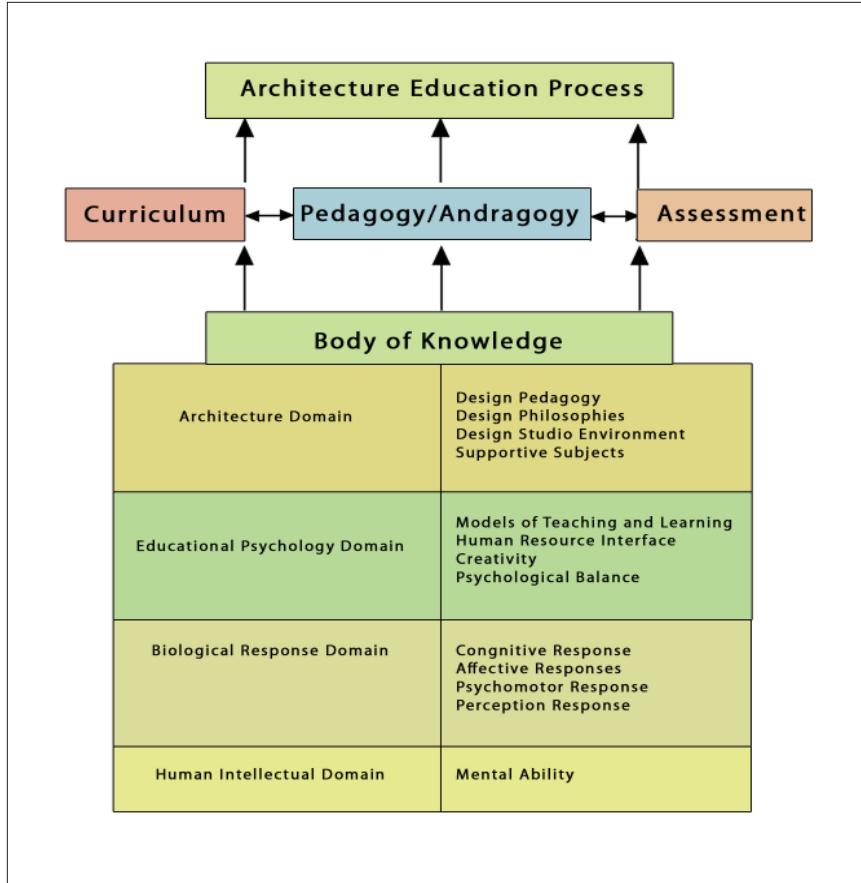


Figure 7: Domains of Applied Knowledge. (Source: Authors).

A noble venture towards realization of Integration of Applied Knowledge has been initiated at SMM College of Architecture, Nagpur University, India, in the form of a Post-Graduate Program open to practicing architects as well as to teaching fraternity, dedicated towards revitalization and improvement of architectural

education (Smt. MM College of Architecture, Nagpur).

Architectural education involves application of a theory of knowledge – what is known and how it is to be known. Nothing is taught unless it is learnt.

## Concluding Remarks

The realization of the need for remarkable paradigm shift from the established conventional modes of transmission and transaction to a refined mode necessitates rethinking the architectural education process. The proper understanding of the various domains of integration and modes of approach could act as the pathway towards evolving new models of teaching architectural design. The architectural teaching fraternity must start on a new journey toward self realization and to mold budding minds in the most appropriate manner. The paradigm shift is towards focusing more on the individual's understanding and assertion with the design realm and the built environment.

## References

- Alexander Kapp. Retrieved February 15, 2010, from Wikipedia The Free Encyclopedia: [http://en.wikipedia.org/wiki/Alexander\\_Kapp](http://en.wikipedia.org/wiki/Alexander_Kapp)
- Badrinarayan, A. S. (2008). Three Holy Myths of Architectural Education In India. Abacus, Spring Issue - Architectural Education: Vol.3, No.1 .
- Bono, E. D. (2008). The Free Mind. Delhi: Jaico Publishing House.
- Council of Architecture, New Delhi, India. Retrieved February 10, 2010, from [www.coa.gov.in](http://www.coa.gov.in): <http://www.coa.gov.in/school/admission.htm>.
- Droste, M. (2002). Bauhaus: 1919-1933. Berlin: Taschen.
- Educational Technology. Retrieved March 28, 2010, from [en.wikipedia.org/wiki/Educational\\_technology](http://en.wikipedia.org/wiki/Educational_technology).
- Malcolm Knowles. Retrieved February 25, 2010, from [en.wikipedia.org/wiki/Malcolm\\_Knowles](http://en.wikipedia.org/wiki/Malcolm_Knowles).
- Martin Pearce, M. T. (1995). EDUCATING ARCHITECTS. Academy Editions.
- S.A.Deshpande, P. (2006). D is for Design. Architecture - Time, Space & People .
- Salama, A. M. and Wilkinson, N. (2007). Design Studio Pedagogy: Horizons for the Future, Gateshead, United Kingdom: The Urban International Press.
- Smt. M.M College of Architecture, Nagpur. Retrieved February 8, 2010, from [www.ladarch.com](http://www.ladarch.com): <http://www.ladarch.com/>.

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