PRACTICE

Behind the Scenes
of an E-learning Platform

Sonam Ambe and Gita Balakrishnan

Sonam Ambe is the Chief-in-Pedagogy at Acedge, an e-learning platform for architects. She is an alumnus of Sir J.J. College of Architecture and IIT Bombay. She was conferred the MASA Best Teachers Award 2016 and has also received the Saint Gobain Scholarship-2018, Ministry of Culture Grant 2017 and the Sahapedia–UNESCO Fellowship-2018. She has authored five books on diverse subjects of art, nature and heritage.

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Gita Balakrishnan completed a 1700km journey on foot from Kolkata to New Delhi to raise awareness on the role good design can play in changing lives. A graduate of SPA Delhi, she trained at Carnegie Mellon University, Pittsburgh, USA. She started Ethos in 2002 with the intention of making the architectural and civil engineering community alive to the changes happening globally and in our country in the field of architecture and construction. Ethos launched ACEDGE in August 2018 – to offer online education modules that give the EDGE in the field of Architecture, Construction, Engineering and Design.

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In this practice essay, Sonam Ambe and Gita Balakrishnan from Acedge write about their journey of operating an e-learning platform for students of architecture, something that was a new paradigm in teaching architecture, but soon the COVID pandemic made everyone embrace it. The authors have shared experiences of their academic practice – of a kind which is not tied to a single location or source, affords numerous freedoms, and it is here to stay even if the schools have switched back to the physical mode.

Can architecture be taught online?

It is spatial, experiential, and intimate.

You think it, sketch it, plan it, draft it, discuss it, alter it, detail it, and finally execute it. As a beginner you learn best by exploring good architecture and experiencing bad architecture; one inspires you and the other warns you.

Yet, when the pandemic induced lockdowns forced the world to go digital, teaching of design and architecture had to go online too, like everything else. Was this successful? Did it lower the quality of education? How does anyone practice teaching of architecture via online media? In this essay, we will address these questions and give our recommendations.

At Acedge, we had been experimenting with the online mode much before the pandemic struck and were in a good position to tackle this challenge and offer our services to academia. Acedge was founded in 2018 to help create a level-playing field by bridging the gaps existing in design exposure. We strive to create content that is relevant to real-life situations and contextual to our country while equipping the fraternity with skills necessary for professional life. The field of Architecture Construction Engineering and Design (ACED) is undergoing a significant transformation in recent times and our modes of learning need to keep pace with it. With this in mind, Acedge hosts sessions on coding, BIM, computational tools, artificial intelligence, environmental analysis, etc. that focus on software upskilling. The computer is the best medium to learn these from. So Acedge teaches software skills. It's axiomatic!
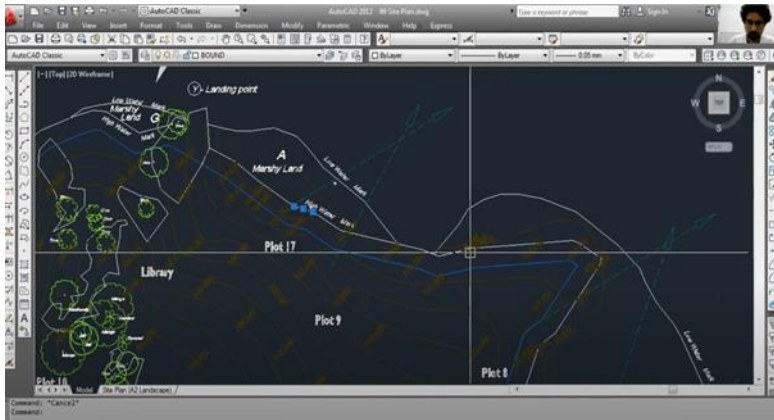
Site discussion with Sanjay Prakash and Mayank Mishra from SHiFt Studio on Beach Resort in Sri Lanka

But what if we told you that we have designed, real-time projects in our online studios?

In 2018, we learnt from Sanjay Prakash and Mayank Mishra from Shift Studio, how to 'Build without Concrete' at 3 live projects in the Sunderbans, Kanha National Park, and a coastal village in Sri Lanka. In 2019, our learners sowed the seeds of 'Starting an Art Practice' with internationally acclaimed origami artist and architect Ankon Mitra, founder-Oritecture, which reaped in 2022 with an art exhibition at the Art.Motif Gallery, Delhi. In 2020, we designed parks with Chitra Vishwanath, founder-Biome Environmental Solutions. In 2021, we conducted 'Built with Hunnarshala' for Madhya Pradesh Tourism Board. Sandeep Virmani, ex VC- Hunnarshala foundation and Aditya Singh mentored the learners to design homestays for tribals in 5 villages in Madhya Pradesh. In 2022, we are designing housing solutions 'Beyond BHK' with Anupama Kundoo, Founder- Anupama Kundoo Architects, and designing for the Line of Goodwill at Auroville. We have been joined by students with extracurricular interests, by colleges and institutions which align this with their academics, and even practices – young and old!

So, let us share some experiences of how we teach online at Acedge. We have to work at both intellectual and infrastructural levels; intellectual to ensure good quality of content and digital infrastructure to ensure a good experience. We learn from every studio and innovate to make the next experience fruitful for all stakeholders. From the first studio with Sanjay Prakash which functioned precisely like a regular studio but was simply hosted virtually, to the present – a studio with Anupama Kundoo that flips the classroom experience, we have surely progressed.

A flipped classroom is a pedagogical approach in which conventional classroom-based teaching is inverted: students are introduced to the learning material before class through online prerequisites and videos. The classroom time is used to discuss, review works or

actually work with peers, often problem-solving activities are also facilitated by teachers. In short, in the traditional system, students learn in a classroom and are then sent away to synthesise, analyse, and evaluate this after the class. In a flipped classroom students acquire knowledge before the class through the videos and notes and use the classroom time to practice and apply concepts and ideas through interaction with peers and teachers. After the class, students reflect upon the feedback they have received in class and use this to further their learning. We have improved our learner's takeaways from the courses based on every feedback received. Every mentor too brings their unique pedagogical approach to the studio; flipped classroom strategy was in fact insisted by Anupama Kundoo.

Presently, our design studios start with a wireframe that discusses the inputs and expected output from the course. We define the timeline and finalise the intent after thorough negotiations. After this, we detail the session-by-session plan. The expected outcomes and final submission are sealed and divided into smaller components of exercises and assignments. Presentations are prepared, references and notes are compiled and systematically laid down in our learning management system. Content is dripped and released on specific dates based on the schedule of the program. Prerequisites and initiation videos are recorded first to be made available to learners before the first session. Thus, ensuring our learners do their homework before the first session. Moreover, we informally meet the learners and faculty involved, before the studio officially begins, in Session Zero to clear doubts about the course, process, and timelines, and align mentor-learner expectations.

This is procedural. Surely, that this is how offline academics works as well! Then how is Acedge different? Acedge aggregates the power of the internet. When Hunnarshala conducted their Studio in 2021 they ensured that the learners were first inspired by a historian, an anthropologist, and the villagers themselves before working on the designs and this was integrated with the wireframe of the studio. So how do people from across the globe share their expertise? They come together by harnessing the power of the internet with Acedge. Participants could not just interact with experts but also the homeowners- their end users. They would simply come online and hear feedback from their clients at the Ministry of Tourism. The process of design discussions is easily sustained by annotating tools, Jamboards, virtual coworking spaces like Miro board, Google Workplace and Acedge's own learning management system that supports thread-by-thread discussions.

We are blessed with good offices with most architectural practices in India through Ethos' and Gita Balakrishnan's long-standing contribution to the fraternity since 2002. Thus, we vouch for the quality and correctness of our content through the expertise and practice of our mentors. Although we have participation from across the globe we focus on learning and application in our South Asian context. Context is the spine of every design studio on Acedge. Learners are encouraged to make models and explore. Some participants join with two devices, one to view the meeting room during the discussion and the other a

Material explorations and open webcam discussions in class

cellphone for demonstration with the use of the camera to walk us through their model. These demonstrations and performances are cherished by all. However, to learn and internalise sensitive approaches and ways of designing, one has to dive in with all one's senses; one has to wet one's hands in the mud to sculpt the space, layer stone on top of stone to stack the form, prop sticks to balance them against gravity, empathise with the users to create an experience and much more.

When Mahesh Radhakrishnan, founder MoAd, Chennai started his quest 'In Search of an Experience' to explore the materiality of space, 32 learners from across the country heard his instructions and explored materials to evolve their designs. Some used tangible materials like stone, thread, paper, and bamboo, while others used intangible material identities like smoke. In a live classroom scenario, when these explorations were discussed by the mentor, they would touch and experience the design, tilt, and twist it to understand it in all dimensions.

The Virtual Studio had only changed the medium, not this exploration. In the virtual space, we could take the camera inside the model and share a walkthrough with all learners. The mentor would instruct the learner to dissect the model, throw torch light to experience the Sun's path, build up smoke and blow wind to understand air circulation and much more. Thus, explorations diversified and the experience of the design process with the mentor's feedback was recreated virtually. These synchronous sessions (where the teacher and learner synchronise their time to meet together and learn) gave personal mentorship a renewed meaning.

A thermocol base of size 50cm x 60cm used to conceptualise different housing typologies for a one hectare site –
(From L to R) 1. High Rise 2. Clustered Housing Layout 3. Perimeter Block

4. Planning a row housing typology. 5.Steel scale became the roads while sketch pens, cutters were used to orient pedestrian walkways

Demonstrations on Massing by Prof Yatin Pandya

Through a unique initiative called the Acedge Collaborative studio, 11 colleges from South Asia came together for master classes. Renowned architects from each country like Sanjay Mohe, Palinda Kannangara, Marina Tabassum, and Sarosh Pradhan mentored the classrooms. A college in Kathmandu, Nepal could now enter the studio of a college in Pune. The work and exhibition of students in Colombo, Sri Lanka was seen by all. The context of hotel design in Bangladesh helped students from Nagpur working on a similar project and vice versa. In its next season, the collaborative studio focused on typology. They shared insights on Housing, Hospitals, and Institutions. Professor Yatin Pandya staged an entire demonstration of FSI and massing in housing from his studio. His team captured the demonstration through another device as he explained the process through his webcam. The expertise of a fabulous teacher, thus, reached wider than one could imagine. We have hosted Martin Fiset, Canadian Architect and consultant at Medanta Hospitals to collaborate with colleges. Presently, Tanuja Kanvinde, partner Kanvinde Rai Chowdhary Architects is interacting with students of 9 colleges and mentoring them on the design of institutions. The collective knowledge of 9 colleges and 36 faculty is brought to the table through such collaborations.

We identify gaps in each institution's knowledge pool and try to fill them with lectures from other college faculty or invite external experts, eg: Meena Mani, founder-Meena Mani Architects, will be discussing campus design on a sloping site through the award-winning case of IIM Kozhikode thus helping learners with similar site context.

Ever since the pandemic, the acceptability of the virtual medium has increased, while some continue to insist on its limitations. Well, every medium has its limitations; earlier the physical classrooms would limit the learning of introverts, who do well online as they can communicate through texts. With online learning, the slow learner need not worry about taking notes but can now pause and listen to the recording again. But mentors have to create special magic online to ensure engagement. They need to engage creatively to share mundane thoughts in the most innovative way through polls, breakout rooms, double screen sharing for side-by-side comparison and much more.

In the end, we would sum up our insights from practicing pedagogy online since 2018 in four points.

1. The internet is a great medium to connect with people across the world, to teach, to learn, to present and understand design as well. We recommend to colleges to consider hosting sessions with experts online. Can some visiting faculty join virtually? Don't be limited by the geographic limit of the institute or budgets for travel and accommodation of these experts.

2. Plan extensively. Managing a class with 200+ learners and ensuring each one gets back most from every session can only happen if you step into their shoes by perceiving their acumen. One has to be ready with quick solutions to resolve clashes as well.

3. Research thoroughly. Expect any question from the learners. We have to be at the top of our game with local byelaws, theories in planning and architecture, climatic responses, etc.

4. Finally, have fun! Use humour to lighten the mood, include memes in the narrative to make things more relatable. Try to make the mentor and faculty your friends so you can shed the formality get the most of their expertise for your learners.

The future of online learning is limited by our own vision. From gamification of content, and virtual reality for explaining building designs and stages of construction, to designing in the Metaverse (we too have our inhibitions there) technology will surely change the way we learn. One needs to be cautious and not ignore the initiation, the first step of learning and the experience of architecture. Online learning can act as an aggregator to make learning democratic, affordable and a catalyst to make good mentors accessible to all. ∎