



Pathways World School, Aravali



Vantage Hall Girl's Residential School, Dehradun



Safa Community School, Dubai

Bangalore headquartered Education Design Architects (esb 2010), a specialised new generation architectural design & consulting firm for educational infrastructure has executed more than 20 projects in the last four years.

EDA is jointly promoted by globally renowned award winning firm Fielding Nair International, USA and DSP Design Associates. Recently, EDA bagged the "*Innovation in Learning Spaces*" Award from the Indian chapter of Swiss-based World Didac at the 6th edition of its annual meet held in New Delhi.

Brainfeed looks into the company's mission of spreading footprints & new trendsetting campus design in India. They not only brought world-class educational as well architectural planning into the country but also revived some of India's best known architectural & educational practices.



## 21<sup>st</sup> Century Learning driven by **NEW AGE ARCHITECTURAL PARADIGM**



Avtar Nehru &  
Pooja Ramanujan

**I**n India, planners and promoters aspiring to build schools and campuses matching up to international standards have always faced a common challenge - getting world-class architectural design services. The emerging role of education technology and its profound effect on learning and teaching processes has, in fact, necessitated integration of technology and gadgets into learning spaces within schools. Both these factors have gently coerced educators into adopting an innovative approach when designing new schools or renovating existing learning spaces.

However, until a few years ago, the country lacked specialized architectural design services for educational institutions. This forced people to look for support outside the country, and usually at very high prices. While some schools may have succeeded moderately at this attempt, a majority of them continued to be built after the mould of traditional schools.

Off late, however, the situation has changed completely after Fielding Nair International, USA, decided to provide its services to Indian clients through their Indian subsidiary Education Design Architects, which was set up in 2010.

Fielding Nair International (FNI), USA, was co-founded by Randall Fielding and Prakash Nair - two globally renowned authorities in the field of architectural planning for educational facilities. It has been engaged in 44 countries in various capacities, including school planning, architecture, training workshops, and consulting. In a

relatively short span of time, FNI has risen to fame and, on more than one occasion, made news too. FNI has won 12 international awards in educational infrastructure design including the world's top most honor – James.D.MacConnel Award.

Speaking of its co-founders, Fielding has a master's degree in Architecture and is the Chief Editor of the Annual Journal of The School of Architecture. He is also the founder of DesignShare.com, a resource rich portal comprising of more than 500 case studies of innovative school designs. Prakash Nair, Managing Editor of DesignShare.com, holds master's degrees in Architecture and Urban & Community Planning. He has also co-authored the best-seller Language of School Design with Fielding. Nair is also credited with developing research-based ground breaking school assessment tool EFEI™ (Educational Facilities Effectiveness Instrument).

The circumstances that lead to the conceptualization of FNI are quite interesting. Prakash Nair's prior experience with education projects in USA showed that a major reason behind high failure rates in school projects was that while the government spent a lot of money on designing and rebuilding schools, the educational aspect was treated independently and, very often, neglected. Realization of this fact led to join force with Fielding to address this mismatch and engage proactively in education planning, technology and school reform. And thus began the FNI initiative which has transformed into something of a global movement.



Safa Community School, Dubai



“The classroom is obsolete, it's time for something new”

– Prakash Nair

Nair's Indian connection always beckoned him to do something for his motherland. Opportunity presented itself in the form of DSP Design Associates Pvt. Ltd. - a company that was offering architectural solutions for more than two decades in India. It entered into a joint venture with FNI to create a new entity aimed specifically to provide globally acclaimed FNI services (a unique combination of education & design consulting) and promoting the philosophy of reinventing the 'neglected' space design element in enhancing learning outcomes.

The new company was named Education Design Architects India Pvt Ltd (EDA) and had its registered office in Bangalore. Bipin Bhadran, a computer science engineer with an MBA from the Leeds University Business School in UK, has been

associated with Fielding Nair International since 2006. Based in UK back then, he was handpicked and moved to India as one of the Directors & also the Chief Operating Officer to setup EDA from scratch and spearhead operations across six cities in India.

“Schools and educators in India perceived FNI as a top of the line American firm that would perhaps not align services in the Indian context. At the same time, Prakash always had an inclination towards doing more quality oriented projects in India but the chasm between what FNI offered and India demanded was too huge to bridge. This was also the reason why on-the-ground presence became a must for us to drive the changing trends in education and educational infrastructure” says Bhadran.

Being a one-of-its-kind venture, EDA naturally had a great head start. As an architecture, design and educational consulting firm focusing exclusively on developing campuses of international quality and standards, it has been received positively within the educational community. Till date, it has successfully completed 20 projects and worked with prestigious names such as American School of Bombay - Mumbai, BITS Pilani Campus - Pilani, Oakridge International School - Bangalore,



American School of Bombay, Mumbai

Green Valley International School - Trivandrum, Vantage Hall Girls Residential School - Dehradun, Global Indian International School - Pune, Gati Academy - Hyderabad, DSB International School - Mumbai, NSBM University - Srilanka, Safa Community School - Dubai, and Modern Indian School - Kathmandu, among others.

According to Sukhdeep Rishi, Director/Promoter at Vantage Hall Girls' Residential School, Dehradun, "We wanted infrastructure and design that had meaning to it and was a result of effective research because only then would it be relevant now and in the future as well. In other words, we were looking at an infrastructure with multi-use spaces in a student-centric design irrespective of the board affiliation a school chooses to adopt. EDA's design and thought process seemed a perfect fit for us." According to him the school's infrastructure and design, at the very least, should complement and aid result-oriented education that develops a student's all-around skills.

Sashikumar, Secretary of Karnataka State Private School Management Federation also subscribes to this view: "Infrastructure plays a major role when it comes to education. Playing areas are being forgotten these days. As

a result, physical exercises and games take a back seat among students, which unfortunately can impact their physical and mental growth. So, apart from well-laid regular classrooms, schools must have proper space with natural ventilation and physical activity areas. Professional help by architectural designers can address such challenges. Schools that have availed services of Education Design Architects are fully aware about the importance of a campus design conducive to their learning/teaching objectives."

According to KV Arjun Rao, Principal of Oakridge International School, Bangalore Campus, "Earlier, a fairly typical institutional set-up was all that was needed and heeded. It was just about spacious, long corridors, with rooms on either side. However, the use of space is now extremely critical. We at Oakridge believe that learning does not just happen within the classrooms, hence we have designed spaces for students which would enable them to work, individually or as groups, outside the four walls of a room".

At Oakridge, structurally, the rooms, the windows, the spacious corridors, the whole building has been designed to promote a sense of space, independence and airiness without any compromise on safety. "The type of windows

that we have used in our school building allows the teachers to keep an eye on students. At the same time it also reminds students of their sense of responsibility. Our construction is not yet over, but we have already witnessed a major impact on the learning process as students are getting the much-needed space. Breaking down the walls of the classrooms has really benefitted students," Rao adds.

Rakhee Gothri, a mother of two from Bangalore says, "In today's world, education is much more than just text books and classroom learning. It is important for children to have holistic learning. Good infrastructure helps in providing excellent physical education and sports education, adventure, fun, and comradeships. For my husband and me, having such an infrastructure and provision was a very important criterion when we were choosing a school for our kids. Thank God, we landed up in a school that met our aspirations and later we came to know that it was designed by Education Design Architects."

So, what is it that EDA offers to schools while creating cheerful places for all stakeholders while enhancing learning outcomes? Research has shown definite connections between the human psyche and the built environment. Most school systems, both large and small, traditionally rely on their own internal 'quality control' methods to develop schools, and this results in too much similarity and very little innovation.

To overcome this tendency of looking at school spaces in a linear way, EDA and its principals has developed a framework of 30 patterns for design of healthy and functional learning environments,

which are applied to its design and architectural solutions. These 30 patterns, which have been illustrated and talked about extensively in the book *The Language of School Design*, takes into account realms of human experience involving spatial, psychological, physiological and behaviour attributes. Based on a comprehensive range of various design principles, they provide solutions to address issues of aesthetics, spatial quality, and the development of brain-based, community-connected, and high performance learning environments.

The company has also identified 20 learning modalities that a school must support, including independent study, peer tutoring, team collaboration, one on one learning with teacher, lecture format- teacher-directed, project based learning, distance learning, internet based research, student presentation, performance based learning, and seminar style instruction. The other modalities are inter-disciplinary learning, naturalist learning, social, emotional, and spiritual learning, art based learning, story-telling, design based learning, team teaching and learning, play based learning, and technology with mobile computers. Our design patterns squarely enable these modalities.

The 30 design patterns define the principal learning areas—the classrooms, learning studios, advisories and small learning communities. It incorporates an entry that welcomes parents and visitors with open arms, sufficient work display areas to make students feel like achievers, home-like bathrooms, casual eating places, indoor-outdoor

connection, transparency and passive supervision, daylight and renewable energy, natural ventilation, dispersed technology, individual storage, adventure sports areas, life skills education, safety and security, and several other innovative designs to make 'schools of the future'.

Manikandan S T, Academic Director at Green Valley International School, Trivandrum, says "As you are aware, we are entering into the knowledge era and India will be playing a crucial role. The primary characteristic of the knowledge era is the speed of innovation and the ability to create products with updated knowledge which are shared globally. Freedom to ask questions, freedom to pursue their interest, freedom to learn at their

own pace, freedom from fear of making mistakes are given focus and ingrained in our daily practices. A school design should support such practices. Children can't be forced to sit inside four walls, as learning and creativity flourishes when the spaces are designed to pursue wide range of interests. Normal classrooms are designed for attending lecture, but students learn in twenty different ways - lecture is just one of the methods."

EDA's comprehensive trademark tool EFEI™ (Education Facilities Effectiveness Instrument) which has over 100 parameters is integral to their design process. One of the major advantages of the EDA design is the higher net (area) to gross ratio. As against the global average of educational space efficiency of 60:40, EDA designs have an average of 80:20 area. The design ideology is such that it improves functionality and efficiency of a building by 20-25 percent. This is achieved through a variety of conscious efforts such as use of flexible walls to transform the otherwise redundant corridor space into discussion zones or activity zones to support project based learning. EFEI™ also evaluates other benchmarks, like students' access to technology and teacher collaboration too. In fact,

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DSB International School, Mumbai

# EDA's 5-D process of Project Implementation

## D1 – DISCOVER

Conduct stakeholder & community visioning sessions & workshops. Educate client on global trends in education and probe how they would like to differentiate themselves via this opportunity of creating a new school or university campus.

## D2 – DEFINE

Strategize and define the goals and roadmap for achieving the chosen path. Detail out a brief and program for the project by giving shape to the overall vision. Identify positioning, target segment, level of the innovation the school intends to stand up for, professional development programme etc is defined.

## D3 – DESIGN

It is only after a consensus is reached amongst all stakeholders & expectations set, that work starts at the design and sketch concepts, themes and ideas to the physical

form of the campus and its buildings. Match the learning experience the school intends to provide to its learners. Design around the learning experience a student would go through during his/her day at school. If it's a residential school, what off school hours experience would they be exposed to are addressed in the physical manifestation of the design that has evolved from D1 & D2.

## D4 – DEVELOP

Designs are developed in detail with engineering experts and consultants. Help clients identify contractors, service provider etc.

## D5 – DEPLOY

Actual execution on site, hire teaching & non teaching staff, conduct educational commissioning or curriculum mapping workshops with the end users of completed buildings and campus.

EDA has developed a five-stage unique process called 5-D that is followed while working on a project (see box).

According to Mr. Bhadran, EDA has solutions for every category of school ranging from large campuses to turning houses into pre-schools. "For new campuses, we act as a one stop design solutions provider. Starting with educational visioning workshops, site planning and developing a long term phased out master plan for construction, we also take care of building architecture, interior

design, landscape architecture, structural, electrical, plumbing and other engineering services, signage and graphics, security and surveillance. In addition to design solutions, we also extend site support during construction for design adherence as part of the service." And once EDA takes up a project, its experts thoroughly analyze the diversity of the assignment. It is not just a bunch of architects, but a team of experts comprising of child psychologists and senior educationists, who provide their valuable inputs all throughout the project lifecycle.

For existing campuses, the approach is different, he says. "We work with school managements, teachers, and students to enhance the educational efficiency of the existing infrastructure and also conduct curriculum mapping workshops for improved utilization of space. We provide design support to upgrade, renovate and refurbish the building using our trademark tool EFEI™ (Educational Facilities Effectiveness Instrument). EFEI™ evaluates existing facilities and benchmarks them against international standards in education and design. Various public and private educational departments from across the globe have benefitted from this tool. It has helped them plan their investments better and focus on obtaining better educational return for the money spent. So far, it has been used to evaluate over \$10 billion worth of educational facilities all over the globe."

According to Prakash Nair & Randall Fielding, "We understand that in the world of education, change can be a very painful process, but we also understand that it is more palatable and feasible when that change is tied to something tangible like a new or a renovated school building. That is why we see our job not only as architects but also as change agents."

So, the change has arrived and it looks like it's here to stay. A trend has set in for innovative research-based architectural designs in the education space. It looks like our institutions and learning centres are finally giving due importance to facilitating and enhancing learning outcomes and living up to the expectations we've had from them. ●

**Q Can you briefly tell us something about the history behind setting up EDA? Did Prakash Nair's Indian connection play a role? Was India prepared to adopt international designs?**

I became associated with FNI back in 2006 when I was still based in the UK. Back then, we used to get several inquiries from India to design educational institutions. However, due to logistical reasons, the costs associated with working with an international team proved to be prohibitive and did not find many takers. To counter that, we decided to setup an Indian arm in 2010 and service clients in India.

Prakash was always inclined towards doing more quality-oriented projects in India. However, the gap between what FNI offered and our Indian clients demanded was too huge to bridge. This was yet another reason why on-the-ground presence became important for us to drive the changing trends in education and educational infrastructure.

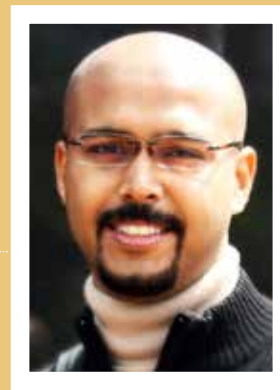
**Q So what were some of the first major decisions the newly formed company took? What about the research on existing architectural designs in India?**

Whether or not FNI should create a presence in India was amongst the biggest and most strategic decisions we had to take. We also debated on the prudence of setting up a wholly owned subsidiary vis-à-vis partnering with an existing firm.

FNI entered into a JV agreement with DSP Design Associates to set up a company in India. In this mutually beneficial partnership, FNI brought to the table its intellectual property in planning and designing educational

"We have and offer design solutions to more or less everything that falls under an institutional genre"

**Bipin Bhadran,**  
Director,  
Education Design  
Architects



institutions while DSP provided infrastructure, start up assistance, and on-ground support. As a local partner, it also fed the organization with market intelligence and resource support as necessary. To be fair on both parties, we named the JV entity EDA.

Being the only one of its kind in India, EDA had a great head start. We were an architecture, design and educational consulting organization that focused exclusively on developing campuses of international quality and standards. Proud to say, we remain faithful to that vision.

I moved to India as part of a long term plan to build FNI's local office. As Director and Chief Operating Officer of the company, I have been involved right from its incorporation and am delighted that the association has lasted this long.

**Q Fielding Nair International's services**

**as they existed would have to be customized to Indian conditions. Can you elaborate?**

Studying the regulatory framework, curricular needs, and responding to stakeholders' wishes all play a part in developing a customized design solution for any project. FNI is a research-backed firm and continues to innovate itself project after project, bringing newer design thinking for educational problems that teachers and students face in a learning setting. Studying the culture, ethos, tradition, climate, competitive environment also play a significant role in helping us deliver tailor made solutions for our clients.

As you can see, customization, for us, is integral to our approach. It applies to not just India as a whole but for tier 1, 2 or 3 cities within the country. Design solutions vary from Dehradun to Bangalore to Jamshedpur to Mumbai. We draw from our rich and varied experience, gathered





Vantage Hall Girl's Residential School, Dehradun

from working in 44 countries across 6 continents. Having encountered several scenarios and executed numerous projects successfully, we understand that a one-size-fits-all approach is a recipe for inefficient and dysfunctional design and infrastructure.

**Q Did you train the professionals who are working for you to implement your philosophy?**

Absolutely. And this is very much an ongoing process and approach. We encourage and facilitate high level of collaboration between all FNI studios worldwide. The regional HQ of FNI in Bangalore works hand in hand with other studios based in USA, Europe and Australia, allowing all our professionals to stay abreast of latest practices, technologies, innovative thinking, changing trends in education, pedagogy, teaching aids and tools, and products and equipment, among other factors. Key members from the Bangalore HQ have also visited FNI's high performing schools in other parts of Asia, Middle East, and Europe as part of this initiative. Webex video conferencing sessions are yet another initiative to bring colleagues across different continents closer.

**Q There are some issues and challenges in the Indian scenario, ranging**

**Q from safety of children in schools, energy conservation, carving space for activity-based learning, to making them friendly for differently-abled students. How do you plan to address them?**

As an industry expert, EDA's role is to help identify these challenges early on in the project and take appropriate measures to overcome these issues. We work towards delivering a campus that is highly efficient both in terms of fulfilling educational and curricular needs and being sustainable and environment friendly. Every attempt is made to put in place a long term plan and do away with operational nuisances that is often caused by short sightedness

**Q There are various categories of schools in India and a huge number of small schools. Do you also offer some solutions to them? What about modules?**

When we say we have varied experience, we aren't kidding. We've worked on projects as small as houses being converted to preschools and kindergartens as well and university campuses spread over hundreds of acres. We have even worked on several vocational and skills developments institutes in India and abroad. EDA has and offers design solutions

to any building that falls under the institutional genre and that remains our greatest strength.

**Q In terms of executed projects, ongoing projects, can you share a few highlights?**

The portfolio of our international projects is available on: [www.fieldingnair.com/index.php/projects/](http://www.fieldingnair.com/index.php/projects/) while Indian and regional projects are covered here: [www.educationdesign.in/projects/](http://www.educationdesign.in/projects/)

**Q Can you tell some about some awards, books, milestones?**

EDA has been fortunate in the attention it has received. We've been in the spotlight more than once, and all for very good reason. We were recognized as the 'Architect and Design firm of the Year for Education' in 2013 by the Indian Education Congress. Yet another honour that was bestowed upon us was the 'Innovation in Learning Spaces' in 2014 by the India Didactics Association, Indian Chapter of World Didac, Switzerland.

Our landmark publication 'The Language of School Design' is now in its 3rd edition and the Harvard Education Publishing Group re-cently published a new book titled 'Blueprint for Tomorrow: Redesigning schools for Student Centered Learning' written by Prakash Nair.

**Q Future Plans**

EDA continues to advocate and demand a paradigm shift in the educational standards and practices all over the world. We strive towards improving learning experience and outcomes through better design. We also hope to expand our team and service offering to touch upon all aspects of educational infrastructure and operations. ●