

Solar Digital Night Schools bring back over 1000 students to conventional studies

Mangalchand from Tilonia village of Ajmer district in Rajasthan grazed cattle for a living. However, he had also developed the bad habit of consuming drugs and intoxicants.

Barefoot College one of the core groups of SEED division of Department of Science & Technology was running a night school for the education of children deprived of education. Kana Ram Soni and Ratan Ji were teachers in that school. On their advice Mangalchand enrolled in school and studied there till class 5.

After that, the institution ran six months of motor winding training at the extension center Kotri which he attended. Their teacher Narpat Singh Nittuti, taught valuable life lessons to the students.

Today, Mangalchand owns a shop in Tilonia, where he works with electric motors used to pump water, electric motors for fan, coolers and grain grinders and services old electric motors and light fitting work in the remaining time. After studying in the night school, he was able to understand day to day financial transaction with ease and earns Rupees 10,000 to 15,000 thousand per month from the shop. He has given up the urge to consume drugs and gives priority to his children's education now.



Figure 1 Edu-Box the complete kit

Barefoot college, one of the core groups of SEED division of Department of Science & Technology has brought around 1000 children who otherwise would not have gone to school back to the educational system through their Solar Digital Night School model. Around 57% of these students are girl's majority of whom are less than 15 years of age.

The Solar Digital Night School model is a complete solution for quality digital non-formal education for remote off grid underprivileged communities and is a direct response to the 2015 SDG 4 goal "Quality Education for All". The model is usable in off-grid, offline spaces and is

ground tested for easy user interface. Additionally, they come with a phased digital integration plan which allows digitally novice users sufficient time to get comfortable with the devices thereby ensuring that they are keen on utilising them regularly than being intimidated by them.

The model was developed by Barefoot College, with the help of DST and includes solar projectors with offline server to provide better hands on education to the children in schools all around India. Currently there are twenty seven schools spanning the states of Rajasthan, Uttarakhand, Gujarat, Bihar, Andhra Pradesh, Orissa, Chhattisgarh, Jharkhand, Manipur and Karnataka.



Figure 2 image of a Digital night school teacher taking class with Edu-Box

The Barefoot in-house assembled Solar Powered Projector is small and compact packed with all education tools it is highly versatile as it can work with many medium (tablet, laptop, or mobile phones). It provides access to 50+ individual nodes at a point in time and can be used for both online and offline activities. Its unique feature of per child tracking of learning levels gives it a huge competitive advantage.

Further it is an easy-to-use one-switch solution to transform a community space into a digital classroom wirelessly paired with tablets which allows teachers the freedom of movement, engagement and seamless interaction without requirement of any digital experience or training. The focus of teachers is on learning by doing.



Figure 3 Image of a digital night school

An offline router with curated content is pre-loaded which simulates an offline ‘internet’ for children (as well as village adults) to browse through. The digital aids therefore opens up on disseminating practically unlimited amount of content to these communities providing them never-before access to visual media and information.

The digital night schools cover an integrated rural Science, Technology, Engineering, the Arts and Mathematics (STEAM) curriculum with a pro-girl approach focussing on Environment, Rights Awareness, Leadership & Health with localised content which is crucial for the SDG 5 Gender equality and SDG 10 inequality. Since its inception Digital Night School model has educated more than 75,000 children of which 65% were girls. More than 40% of the children have been integrated back into state secondary schools. More than 14,000 grassroots teachers after participating in the comprehensive teachers-training program have been permanently hired into the State School system.

The programme is being implemented in 10 states apart from Rajasthan as well as Malawi in Myanmar outside India.