

Cultivating urban ambassadors for nature

Genesis of an idea

One evening during November 2005, over a cup of coffee, some of us at FRLHT, came up with an idea, 'Why not develop a nature education programme for busy city kids to learn about their neighbourhood plants through a combination of nature walks, talks and e-learning, using an interactive CD-ROM?'. Driving us was our view that children increasingly lead busy life styles and spend more time on indoor activities. Their lack of time to appreciate nature has resulted in a drift away from nature to monotony. There is also sparse coverage of local flora and fauna in the school curriculum, inadequate availability of educational material on local biodiversity and a lack of awareness about medicinal plants and traditional knowledge.

Right:
Students
making careful
observations
and drawings of
plants (Photo:
Suma Tagadur)



Summary This article describes FRLHT's new experience related to encouraging young minds to appreciate and explore their neighbourhood plants. Students learn that many plants have medicinal value and are related to their lives. We strongly believe children are ambassadors who will carry forward our conservation messages to their families and friends in a constructive way, provided their interest is nurtured.

We began the project by attempting to understand urban students' interest towards nature, their natural skills, their understanding about nature, their traditions, their hobbies and kinds of outdoor activities they prefer. This exploratory study showed that students lack exposure and awareness towards nature. Foreseeing the cascading implications, we have initiated a participatory approach, where teachers and children are involved in an interactive, educative and enjoyable manner to learn about the plants in their vicinity. Our aim is to ignite young minds to think and act locally, to conserve medicinal plants and traditional knowledge.

Convinced that our idea was a good one, we scrutinised book stalls to find out what the availability was of publications dealing with local flora, especially on medicinal plants for school students. Next, we consulted textbooks from state and central education departments. All these efforts confirmed our views, enabling us to feel confident about designing an educational programme and resources.

Our objectives

The main objectives for the programme were:

- To inspire young minds to appreciate the plants in their neighbourhood

- To know that many of the plants have medicinal value and are associated within traditional knowledge
- To encourage students to think globally and act locally
- To generate pro-environmental behaviour and attitudes
- To design the supplementary resources in the form of an interactive CD-ROM entitled 'Neighbourhood Medicinal Plants of Bangalore City'
- To demonstrate the use of a CD-ROM prototype with the outdoor-based activities such as nature walks, observation studies, project work etc.
- To undertake participatory field testing of the CD-ROM prototype with the school students (high school) and teachers.

At FRLHT, we identified two main steps in testing the educational programme:

1. Designing a CD-ROM prototype entitled 'Neighborhood Medicinal Plants for School Children of Bangalore City'
2. Field-testing and dissemination of prototype CD-ROM through the nature education programme.

Step one - Designing the CD-ROM

A comprehensive checklist of common plants was prepared by experienced field botanists through field surveys across Bangalore city. Field data was overlaid with information in the Encyclopaedia on Indian Medicinal Plants database (www.medicinalplants.in). A list of 269 plants emerged as common medicinal plants in Bangalore city. To this list, additional information on medical systems, medicinal uses and associated information was included gradually. This list was then incorporated into the prototype CD-ROM.

Step two - Field-testing and dissemination

Once the first prototype CD-ROM was designed, we organised a teachers' workshop to get feedback on the nature education programme and CD-ROM. The biology teachers and education experts who took part said



Left: Students using their detective skills to identify plants from a range of materials (Photo: Suma Tagadur)

this programme was interesting and provided 'life long learning' experiences for students. They said it would provide students with the correct information and would allow them space to link the learning to their lifestyles in an enjoyable fashion. Their first impression about the CD-ROM was that "it could become a supplementary learning aid for students and teachers to know about the commonly found medicinal plants of Bangalore city, learn the plant names, use it as authentic reference material for building science projects, and enthuse students to identify plants, thus building interest and skills."

With this initial feedback, we moved forward to test the education approach and the CD-ROM among five schools in Bangalore city. The teachers were also willing to participate in the trialling of the nature education programme.

With the teachers as the backbone to the programme and the driving force behind its implementation, we designed the approach. This was based on the teachers' views about the



Below: Demonstrating the CD-ROM prototype 'Neighborhood Medicinal Plants for School Children of Bangalore City' (Photo: Suma Tagadur)

students' level of knowledge about their neighbourhood plants, whether they could identify them and whether they knew their medicinal values and the traditional practices associated with them. The teachers also suggested that the ideal target audience was students of 7th to 9th standard. These students are free from competitive examinations and so have ample time to explore and learn about plants. They are also receptive and

Right: Students planting a school herb garden with the support of their teachers (Photo: Suma Tagadur)

inquisitive at this age. Looking at all the practical possibilities, we collectively developed learning objectives for the nature walks and trails and project works. These objectives focused on developing observational, data organisation, data collection and analysis skills as well as improving communication skills and developing empathy and a positive behaviour and attitude towards the environment.

Learning through experience

We began our nature education programme with schools, through the establishment of nature clubs. In each club there are 20 to 30 students as members by choice. Before taking the students on nature walks, we assessed their level of understanding about local plants through games and themed discussions. During the nature walks, learning objectives developed by teachers were delivered. The initial walks focussed on looking at plants, learning their various parts and how these are arranged and observing their interactions with other plants and animals.

We found that motivated students took the initiative to come up with nature books, record their observations, and share information with their friends. They learnt to identify plants in a simple way and also learn the local names and botanical names with the help of a botanist and the CD-ROM.

To date, 130 students representing 6th to 9th standard (11 to 14 years old) have taken part in the nature education programme and are involved in various activities including:

- Active participation in nature walks to deepen their understanding of local plants.
- Exposure to well referenced education material such as the prototype CD-ROM based on the Encyclopaedic series
- Obtaining feedback from students and teachers for improving the educational material
- Undertaking self-defined research projects related to local plants
- Sharing of learning experiences with participating schools
- Gradually setting up school herbal gardens with students and teacher participation.

Audience based evaluation

The nature education programme and CD-ROM have undergone front end and formative evaluation. During the testing stage, we have received feedback from students on the usefulness and user- friendliness of the prototype. So far nearly 220 students across Bangalore city have fed back their comments - from urban and semi-urban students who visit the FRLHT campus and are part of the nature education initiatives. This feedback was



obtained through focused group discussions, personal interactions, frequent peer reviews and questionnaires. Based on the suggestions, we have included a module in the programme called 'Green Pad', to help users create their own personal digital database on field notes. Thus the educational material is evolving and has graduated to include two interactive prototypes.

What next?

We are looking forward to finalising the nature education programme. In the future we are keen to develop similar approaches and CD-ROMs for various other cities across India and to share our experiences with like-minded organisations. Currently we are experimenting with school children on tree identification in a similar way. The feedback suggests that another e-tool would be useful in helping children identify trees of Bangalore city.

Conclusion

The prime focus of this interactive approach is to nurture love towards plants and build scientific skills in students. Through this approach we aim to build skills, provide authentic information and create learning environment to think, act and share experience with others. Our goal is to create many ambassadors who can propagate the conservation message.

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Right: Motivated students from Ramagondanah ali School share their learning experiences (Photo: Suma Tagadur)



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Résumé

Cet article décrit les nouvelles expériences menées par le FRLHT, qui cherche à encourager les jeunes esprits à apprécier et à explorer leur environnement végétal. Les étudiants apprennent que beaucoup de plantes ont une valeur médicinale et sont liées à leur vie. Nous pensons fermement que les enfants sont des ambassadeurs qui diffuseront notre message sur la conservation d'une façon constructive auprès de leur famille et de leurs amis, pour autant que leur intérêt soit sustenté.

Nous avons commencé le projet en essayant de comprendre l'intérêt des étudiants des zones urbaines envers la nature, leurs compétences naturelles, leur compréhension de la nature, leurs traditions, leurs passe-temps et quels types d'activités de plein air ils préfèrent. Cette étude exploratoire a démontré le manque d'exposition et de sensibilisation à la nature dont souffrent les étudiants. Au vu de l'enchaînement des implications, nous avons initié une approche participative où les enseignants et les enfants sont engagés dans un apprentissage interactif, éducatif et agréable concernant les plantes de leur voisinage. Notre but est d'enflammer



Left: Close observational drawing is a good way to learn the different parts of a plant (Photo: Suma Tagadur)

les jeunes esprits pour les inciter à penser et à agir localement afin de conserver les plantes médicinales et les savoirs traditionnels.

Resumen

Este artículo describe la nueva experiencia FRLHT destinada a motivar jóvenes mentes a apreciar y explorar sus plantas vecinas. Los estudiantes aprenden que muchas plantas tienen un valor medicinal y están relacionadas a sus vidas. Nosotros creemos fuertemente que los niños son embajadores quienes llevarán nuestros mensajes de conservación a las familias y amigos en una forma constructiva, probando que su interés queda consolidado.

Nosotros comenzamos el proyecto intentando entender los intereses de los estudiantes urbanos hacia la naturaleza, sus habilidades naturales, su entendimiento acerca de la naturaleza, sus tradiciones, sus pasatiempos y tipos de actividades extramuros que ellos prefieren.

Sus estudios exploratorios mostraron que los estudiantes carecen de exposición y preocupación hacia la naturaleza. Previniendo las implicaciones derivadas de esto, nosotros hemos iniciado iniciativa participativa, donde los maestros y niños están involucrados en una manera interactiva, educativa y amena para aprender acerca de las plantas en sus alrededores. Nuestro objetivo



Left: Interactive sign board, encouraging students to identify as many plants as possible (Photo: Suma Tagadur)

es animar a estas mentes jóvenes a pensar y actuar localmente, para conservar las plantas medicinales y conocimiento tradicional.

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