

**One Day Orientation Program
On
Plant Morphology, Plant Anatomy, Primary Health Care and Biodiversity
Conservation for the students of Government School, Bangalore**

28th December 2017



**Organized by
TransDisciplinary University, Bangalore (TDU)
(Supported by Infosys Foundation, Bangalore)**

**74/2, Jarakbande Kaval, Via Yelahanka, Attur P.O., Bangalore – 560106, Karnataka, India
Ph: 91 80 28568006**

One Day Orientation Program for School Students of Government School, Yelahanka, Kakolu

Introduction

Cities have been witnessing an erratic urbanization, which has led to rapid diminishing of green cover. As a result of this, our cities are experiencing the incidences of increase in temperature, reduction in air quality, water scarcity, urban floods, etc. Hence, there is an urgent need to maintain an ecological balance, a truth not sufficiently felt and understood in the sphere of urbanist advocacy. Cities developed in harmony with beauty and function of nature would certainly help building a healthy urban ecosystem.

In this context, it has become important that young minds have to be informed more about various biotic components in the urban ecosystem. This could happen through simply taking them close to nature and making them understand its importance. It would bring forth a future generation with environmental consciousness, which can build a sustainable urban environment.

The TransDisciplinary University (TDU) with the support of Infosys Foundation, Bangalore has developed a unique one-day orientation program for the students pursuing their secondary education, to give them an opportunity to learn the basics of plant taxonomy, anatomy, primary health care and biodiversity conservation. This program has been designed in line with their school curriculum. It is expected that this program will broaden their understanding about the nature specifically plants and help them develop their interest in the urban nature conservation.

This could be a precursor to any environment education program that government likes to introduce at the school level.

Introductory Session

Dr. M. Abdul Kareem, Associate Professor and Course Coordinator gave an overview on the TDU and Shri B.S. Somashekhar, Associate Professor explained about the work carried out by TDU in terms of medicinal plants and asked the students about the medicinal plants found in their surroundings. Ms. Amrita. G gave a brief introduction about the Program. Around 42 students from class 8th and 9th Standard participated in the program accompanied by two teachers.



Session: 1: Primary Health Care

Dr. Subramanya Kumar, Assistant Professor defined primary health care and explained about the importance being healthy. He emphasized on the intake of nutritious food that can keep mind and body strong and fit. He explained about the pyramid that shows the quantity of food to be taken like green vegetables in more and sugar in less quantity. He also showed some important remedies that are easily prepared at home to cure common diseases such as cold, fever, cough, indigestion, headache etc. few examples like usage of dry skin of pomegranate, stems of *Tinospora cordifolia*, leaves of *Centella asiatica*, *tulsi* etc were also mentioned. Students were enthusiastic to interact and ask more questions related to remedies to cure common health problems.



Session: 2: Anatomy and Herbarium

Dr. Noorunnissa Begum gave hands on training on plant anatomy. She demonstrated the preparation of anatomy slides by taking sections of a monocot (*Penicium* species) and dicot stem (*Tinospora cordifolia*) and staining technique. Students were asked to take the sections and observe the specimen through the microscope and examine the xylem, phloem, epidermis, and cortex. The students were then asked to form a group of five each and prepare similar slides.

They were also shown herbarium sheets and its techniques to prepare them. Ms. Preethi, Research Fellow and Ms. Sridevi guided them in conducting the session



Session: 3: Plant Morphology

Students were taken to ethno medicinal garden which comprises of over 1500 species of medicinal plants, and the nursery has 450 species with green house and mist chambers for propagation and shade houses with misting facility for special indoor plants. Ms. Amrita. G, Research Fellow, TDU explained about each characteristics of plants such as structure and shape of leaves, size of fruits, leave patterns, uses of medicinal plants. They were taken to nursery garden where could see various medicinal plants and explained about their uses. Students were shown various medicinal plants such as tulsi, *Centella asiatica*, aloe vera, lemon grass, *Tinospora cordifolia* etc. She also explained the process of preparing vermicompost in the garden for the growth of plants.



Session: 4: Biodiversity Conservation

Ms. Anu.V and Ms. Amrita. G took over the session in the form activity and explained the importance of biodiversity and balancing the nature with a game called as balancing the stick.

They also conducted an activity with the students in collecting materials found in the surrounding and to segregate them in living and non-living things. Students were also made blind folded to understand the flora with the help of their senses such as touch and smell. With this they are assured to observe nature and biodiversity wherever they go.



The program was culminated with the feedback of the students and distribution of certificates to the students by Dr. Ganesh Babu, Associate Professor, TDU, Bangalore



Learnings:

It was a general perception among students that only a few plants are medicinal. However, they found that most of the plants have medicinal value after undergoing this orientation program. The practical sessions on anatomy were very useful particularly for those students who like to pursue a career in life sciences. A basic understanding of uses of medicinal plants for primary health care was also notable.. Exploring the garden thought wide range flora in the country and its key characteristics and features. A fun activity with the students leads to understanding the nature and being aware of the importance in order to protect them for the future generation.

Feedback:

Students were asked to fill up a questionnaire to analyse the flow of the program, its content and also to understand as to how far the students were able to grasp the subject. It will also enable the organizers to get the vibe of students and make necessary corrections. Students expressed their feelings of attending such program conducted for the students of government school. It is great exposure to them as they are exposed to various fields such as plant identification, anatomy home remedies, understanding the importance of conservation through activity. Students liked all the session conducted for a day. They were very happy to come to campus and explore the nature and see many plants and understand the importance associated with it. Following graph depicts the feedback obtained from the participant in each batch.

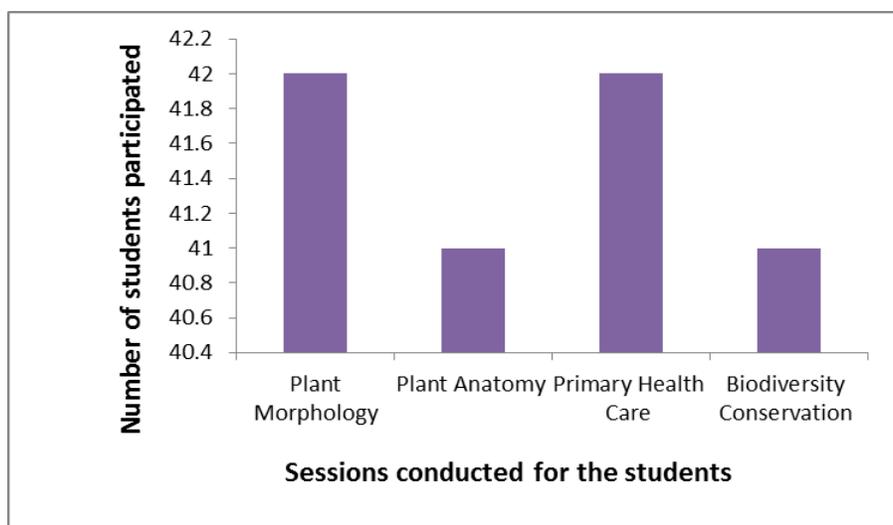


Fig. No.1: Graph depicting the number of students liked the program

List of Faculty:

1. Dr. M. Abdul Kareem, Associate Professor and Course co-ordinator, TDU
2. Dr. Noorunnissa Begum, Associate Professor, TDU
3. Dr. Subramanya Kumar, Assistant Professor
4. Ms. Preethi, Research Scholar, TDU
5. Ms. Anu V., Senior Research Fellow, TDU
6. Ms. Amrita G., Research Fellow, TDU

List of Participants:

8th and 9th Standard Students- 27th December 2017

Jalaja	Karthik
Mamatha	Hemanth
Sonakshi	Prajwal
Pavithra	Praveen
Archana	Kiran
Ambuja	Lohith
Punya	Naveen.G
Kavya	Naveen Kumar. H
Gayathri. R	Navya
Gayathri. M	Rakshita
Lavanya	Sandhya
Sandeep	Chaithra. R
Ravi Raj	Chaithra. D.P
Ravikumar	Prema
Akshay	Subhash
Ajay	Sriharsha
Darshan	Prakash
Rashi	Sneha
Sushma	Girish
Manoj. B.S	
Ankita	
Chiranjeevi	

Program Schedule:

Time	Topic and Objective	Resource Person	Venue
10.15- 10.30.AM	Introduction to the program	Dr. M. Abdul Kareem Associate Professor Ms. Amrita G. Research Fellow	Training Hall Patanjali Block
10.30 – 11.30AM	Primary Health Care	Dr. Subramanya Kumar Assistant Professor	Training Hall Patanjali Block
11.30 – 12.30 AM	Plant Anatomy and Herbarium	Dr. Noorunnisa Begum Associate Professor	Field Herbarium (Vagbhata Block)
12.30 -1.00 PM	LUNCH		
1.00 – 2.00PM	Exploring the University through identification and morphology of plants	Ms. Nandini. D Consultant Ms. Amrita.G Research Fellow	Field
2.00-3.00	Basics of Biodiversity <ul style="list-style-type: none"> • What is biodiversity • Basics of biodiversity 	Ms. Anu.V Senior Research Fellow Ms. Amrita.G Research Fellow	Field
3.00-3.15PM	Valedictory Ms. Anu.V Senior Research Fellow		