

Vigyan Ashram Status Report

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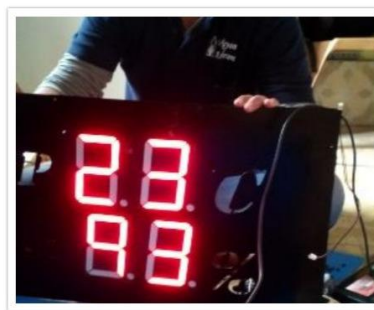
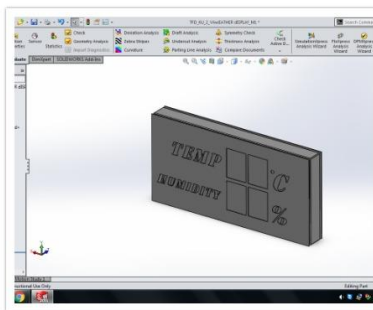
- DIC- Fab Lab project: Digital temperature-humidity display board
- Fish mortality strikes aquaponic project
- SRM 20 CNC milling and new Vinyl cutter for Lab
- MOU with Govt Polytechnic college, Awasari(Manchar)

A] Digital temperature-humidity display

DIC student Jaydeep and team developed Digital Temp-Humidity display. Novelty of the display is

‘Humidity sensor’ is completely developed in the Fab Lab. A good quality, reliable humidity sensor in the market are costing @ Rs.9000. We have selected two good quality digital temperature sensors costing Rs.150/- each. Using standard relation between temp and humidity, an Arduino microcontroller program was written. A casing was made using 3D printer to hold two temperature sensors. One of them is made wet bulb by putting moist cotton around them. A complete unit including display costs Rs.3500/-.

The project is good example of scientific principles, digital fabrication, programming and making a useful product. A display is installed near office building. There will be many applications of the system including polyhouse, dryer etc.



(Clockwise)Photo1: Installation Photo2: humidity sensor Photo3: CAD design Photo4: Display

B] DIC-Fab Projects: DIC students are working on several projects. Some updates are as follows :

- a) Book Stand using Plasma : Pooja and team learned plasma cutting machine to make a book stand.
- b) Nachani roaster : Mahendra is working on Nachani roaster for making Nachani laddu. A special blade to roast nachani flour with ghee is designed. This blade has special profile to avoid sticking of flour to utensile surface and thereby avoiding charring of flour. The project is in advanced stages of completion.
- c) DC Pump : We are trying to make DC pump which will directly run on solar panels.
- d) Dome Dryer : We have procured material for dome dryer and fabrication in process.

C] 15th Aug celebration : DBRT

students were busy after their classes till late night for preparation of cultural program on 15th Aug. Almost all students and staff participated in the program. It was a mix of song, dances, bhajan, mimicry etc performed by the students.

On 14th Aug, all staff and students did Shradaam and everyone planted minimum 2 plants on the campus.

Immediately after 15th Aug, we have started preparation for Ganesh festival and students are learning to play Dhol, Tasha and barchhi dance for ganesh procession.



D] DBRT Progress :

DBRT new batch activities has geared up. Students started getting work order on contracts from the community.

- i) Students completed poultry modification and repair contract from Mr.Pansare. Contract includes work of bricks construction, plastering, fabrication of 4 doors, Chain link fence installation etc. Total value of community service is Rs.70,000/-
- ii) Students completed Godown and shed fabrication work for poultry feed making unit of Mr.Ganesh Shinde. Total value of community service is Rs.66680/-
- iii) Students also completed goat farming fabrication of Mr.Shah. Value of community service is Rs.35890/-



Clockwise 1) Constructing steps 2) Polyhouse shed 3) Erecting fence 4) Fabrication at goat farm

- iv) Students also constructed steps on approach road of new hostels.
- v) **Agriculture** : Students planted Jawar on 1.5 Acre and Maize on around 1 Acre land as fodder crops. Chilly and lady finger plantation after preparing soil using tractor on 20th Aug. Students prepared 25 grow bags for cucumber.
- vi) Poultry farm update – Number of eggs – 2409 Eggs, Kg of feed used – 347.2 Kg (FCR – 1.73 / dozen of eggs), Mortality – 0



E] Poultry Business Training workshop:

Two Days poultry training workshop was conducted on 24th & 25th August. Training was attended by 14 farmers participants & 15 DBRT students. Training covered advanced poultry farming topics like poultry breeds, cage method of farming, vaccination, feed preparation, egg incubation etc. Mr.Swapnil Dhaphal (poultry farmer from Dhamari) and Mr.Tanhaji Jadhav (Area supervisors premium poultry farm) were invited as a resource person. Participants also visited M/s.Future Innovative Systems (Wagholi) to learn egg incubation process.



F] IBT News :

i) Meeting with SSC board Chairman:

A team of senior IBT Headmasters along with Director-VA met Dr. Shakuntala Kale, Chairperson of SSC Board on 16th August 2018. We have discussed various issues regarding IBT-MSFC board examination.

ii) **IBT school permission**- Total 14 schools applies for starting IBT program from next academic year. We had supported them in filling online application form and coordinated with DVET for the same.

iii) Mr.Ganesh Pingle represented VA as a chief guest for inauguration of Dhaulvalli(Ratnagiri) school IBT program on 16th Aug.



Fan repairing - IBT @ Bachel school (chattisgarh)

iv) IBT Virtual class: Video conferencing session are becoming regular now. Every Saturday 9.30am class becoming popular now. Students are also finding benefits of attending the session.

Sr. No.	Date	Topic of video lecture	Lecturer Name	No. of Schools participated	No. of students and instructors benefited
1	4.8.2018	Engineering Drawing- Plan elevation	Dr. Yogesh Kulkarni	19	722
2	11.8.2018	Test the quality of water using H2S bottle test	Mr. Ranajeet Shanbhag	18	567
3	18.8.2018	Engineering Drawing- Plan elevation	Dr. Yogesh Kulkarni	14	521
4	25.8.18	Prepare ferrocement object	Dr. Yogesh Kulkarni	17	485

v) Seven instructors from TISS(Mumbai) underwent training in IBT activities from 19th – 22nd Aug. They will be implementing programs on the line of IBT in schools in Ahmedabad, Palghar and Tuljapur.

vi) Vishal participated on committee to create content for Maharashtra Open School for IBT-MSFC program from 8th – 10th Aug.

VII) Due to their own organizational reasons, Nalanda Foundation (IL&FS) informed its inability to continue its funding to 5 IBT program in Manchar area from Sept 2018. It was big setback for the schools since all schools are doing well and acknowledged by Nalanda foundation. A meeting of all Principals of the schools were held on 27th Aug in presence of Nalanda foundation and VA representatives. It was decided that schools will continue the program from own resources till March 2019. Meanwhile VA will make efforts to raise financial support for these schools.



Instructors from TISS program

G] DIY Lab :

i. Received permission from Pune Municipal Corporation to conduct DIY workshops in 10 schools. This will benefit minimum 200 students. These workshops are supported by Eaton foundation.

ii. Team conducted 3D printing workshop in following schools : a) "Punrutthan Samrstan gulukulam IBT School at Chinchwad ;12th,13th and 20th August 2018 -30 students b) "Dadamaharaj Natekar School IBT school Chikhali"on 17th, 24th & 30th August 2018 - 15 students.

- iii. Conducted workshop on “Best out of Waste - Science & Maths Project” Workshop for ‘Dr Babasaheb Ambedkar High school, Kothrud’ at “DIY lab’ on 8 & 9 August 2018 for 15 students.
- iv. Conducted workshop on “E-Rakhi making” on 22 August 2018 for 5 Student.
- v. Following projects are documented and available on www.learningwhiledoing.in :-
Rakhi Using Laser cutter & Electronics,
Audio amplifier, Automatic Water Planting System, Decorative Clip Using 3D printer & Electronics
- vi. Yogesh conducted small workshop on creativity and innovation at Army Goodwill school in Sopore (Kashmir) on 9th Aug.



H] Technology Development

i) Fish Mortality .. A challenge : We had brought 15000 Vietnam koi seeds brought on 6th August. Even after immense care & treatment we had lost almost all (95 %) fish due to same unknown disease or



infection. We are struggling to find exact reason behind this mortality but did not reach to any conclusion even after consulting fish experts. A detailed cause analysis was done to know this unknown factor behind mortality with DIC team. Some of the probable reasons would be – stress on fish followed by infection, un-healthy seeds (fry), overfeeding etc. Based on the cause analysis we have planned an experiment & planned to have controlled experiment in coming days.

ii) Ranajeet & Dr.Arun Dixit visited Dr.BSKKV B.Tech college, Dapoli on 31st August to discuss on dryer development & CFD work.

iii) Ranajeet visited Mr.Anil Kelkar’s farm near Panvel on 19th Aug to explore possibility of establishing aquaponics system.

iv) Waste survey in Pabal village – On the invitation of Gram Panchayat, Pabal. Ranajeet & Dr.Arun Dixit studied waste generated during weekly market yard (Bazartal). It was found that during rainy season approx.200 to 250 Kg of bio-waste & 40 to 70 Kg of plastic waste is generated on each Friday at Bazartal. We are designing bio-waste composting solution to Pabal village.

v) Suhas visited Palnar (Dantewada) from 1st – 10th Aug and 18th – 26th Aug. He conducted interviews for the post of engineers for Palnar fab lab and selected two engineers. He had conducted training and orientation of engineers. We have started conducting activities in Palnar fab lab. Now Palnar Fab Lab become officially registered as a Fab Lab.

vi) A short video of core support activities of Vigyan Ashram is available on u-tube :

<https://youtu.be/ssQZMRUNIYs>

J) Other tit-bits :

i) We have Snehal, Vrushali joining DIY team at Pune. Gaurav and Purnima joining Fab Lab @ Palnar,CG.

ii) We have purchased 5 new computers, 1 SRM 20, Graphtec vinyl cutting machine through the support of M/s Megger (I) Pvt Ltd.

iii) Asha New Hostel construction- Work of first floor is in progress. During August work of partition wall was and RCC column/beam was started. Slab will be completed in Sept.



iv) Yogesh gave a invited talk on 'Appropriate technologies' at

Govt Polytechnic, Awasari(Manchar) on 27th Aug. We have signed MOU with college for providing internship and project support to their students.

v) Vigyan Ashram Fab Lab case study is published in a book 'Sharing Cities.. activating urban commons'. It available on <https://www.shareable.net/sites/default/files/Sharing%20Cities%20-%20Activating%20the%20Urban%20Commons.pdf>

iii) Visitors to Pabal campus – 278 ; www.dsttara.org – 1057(New-920 , Repeated-137), www.vigyanashram.com -1825 (New visitor – 1526 Repeated-299) ,www.vigyanashram.wordpress.com – 1689(Visitor-1124 Viewers- 565)

ii) Weather record – Rainfall – 82 mm (Total 283 mm) ,Max temp- 28 °C, Min Temp – 23°C , Humidity – 83 % , Water height in well – 6.3 mtr.

iii) Energy consumption record- Electricity unit – III Phase- 1115 unit, I Phase- 911 unit. Quality of power: Number of interruptions : 10, No power : 2.5 hrs. Normal voltage : 96 % , Low voltage : 3 % , No supply : 1 % , No data : 14%

iv) Two wheeler usage : 389 kms

v) Biogas consumption – Dung used- 118 kg, Gas produced- XX m³ (under maintenance)

Data Report : https://drive.google.com/open?id=1syfm1Mjpl_21TMEIzMUG0efu49uZ9uMe

For Regular update: www.facebook.com/vigyan.ashram.pabal

Our sites : www.learningwhiledoing.in , www.dsttara.in , www.vigyanashram.wordpress.com , www.vadic.wordpress.com , <https://ruralstartup.wordpress.com/>

(Work of VA is supported by Asha for Education, Praj foundation, EATON Foundation, SPA Education Foundation, Megger (I) Pvt Ltd, L & T Infotech, INDUSA Endowment, Unicef, Govt of Chhattisgarh, Nalanda (ILFS) foundation, Savitribai Phule Pune University, Suzlon foundation, Fab foundation, Dept of Science & Technology, and many individuals and foundations)

Photo Gallery :



IBT committee meeting @ Mukhai school 7th Aug



Chas IBT : Making ferrocement sheet



Yogesh @ Army Goodwill school, Sopore, J&K



New addition : SRM 20 : CNC milling machine



DBRT students testing earthing in village



Making and testing earthing for new hostel



Making electronic Rakhi @ DIY Lab



MOU signing with Govt Polytechnic, Avasari



DBRT – Lathe machine practice



Super 20 Girls class



DBRT : Soldering practice



Azolla bed @ ashram