

Outreach Activities Conducted by Students under Foldscope Project

“Exploration of Minuscule World through Foldscope”

The project was started in the month of July 2018 with the process of selection of the students for the implementation. The team of more than 100 B. Sc. III Botany students were selected to carry out research and outreach activities envisaged under the project proposal.

10 groups of the 10 to 12 students were formed to work further. They were assigned with the three outreach activities to showcase applications of the Foldscope to the school students and common citizens. Targets were fixed as Rural School, Urban Schools and Community area. For research they were assigned with the one family of the plants. Junior research fellow was appointed in the month of October through due process. Following are the outcomes of the work done under the project –

1. The workshops as “Exploration of Minuscule World through Foldscope” in the 26 schools in and around city of Amravati. Around 1721 students were offered with an hands on experience to see and enjoy the microworld. The same experience was imparted to common citizens in the city of Amravati by conducting sessions at colonies and societies.
2. The Junior research fellow and the B. Sc. Final year students are simultaneously working on the research target under the project. 10 groups of the students with 10 to 12 students in each group are exploring the Leaf Surface Diversity in the plants in and around city of Amravati. Many of the students are now at the stage to publish their research as an article in reputed journal of research. The outstanding achievement of the project is to inculcate social responsibility, communication skill and research attitude in the students at early stage of their under graduate studies.
3. Four M.Sc. Research Projects based on Foldscope were submitted to University as partial fulfilment of the PG Degree in the session 2018-19, all have awarded with the degree.
4. Research outcomes in M.Sc. Projects based on Foldscope were presented in National Conference held at Institute of Science, Nagpur. Four students presented papers during 6 – 7 March, 2019.
5. Innovative Workshop was conducted as Mission Foldscope: with a vision to cultivate one million children as Neotric Innovator and Foldscope with every child. The programme was coordinated by Mr. Pravin Patankar, Foldscope PI on 23rd Jan. 2019 at Shri L. C. Kherde Junior College, Karajgaon, Dist Amravati.

Major relevant pictures taken during workshop conducted to promote the use of Foldscope



Project Launching on 22nd August 2018, one day foldscope outreach program was arranged in department of Botany. The theme was “Exploration of Minuscule World through Foldscope”.

Outreach Activities Conducted by Students under Foldscope Project



5th September 2018, Nature Lovers visited the Neevam School, Amravati



6th Sep 2018, Minuscule Explorers Group visited to Takhatmal English School, Amravati



7th Sep 2018, Micromilitia Group visited to Indira Gandhi Kanya Vidyalaya, Amravati

Outreach Activities Conducted by Students under Foldscope Project



23rd Sep 2018, Micromilitia Group visited to Prashnachinha Adivasi Ashram School, Mangrul (Chavala)



24th Sep 2018, Team Biotech Group visited to Late Babasaheb Warhade High School, Amravati

Outreach Activities Conducted by Students under Foldscope Project



24th Sep 2018, One day workshop was organized for students by Team Biotech Group in Shri. Vyankatraoji Nirmal Vidyalaya, Walgoan.



26th Sep 2018, Nature Warrior visited to Kanya Vidyalay, Amravati



26th Sep 2018, Team Wild Explorers Group visited to Adarsh School, Amravati

Outreach Activities Conducted by Students under Foldscope Project



27th Sep 2018, Team Spartans Group visited to Gadge Maharaj Vidya Mandir, Amravati



27th Sep 2018, Team Micromilitia Group visited to Shashwat Concept School, Amravati

Outreach Activities Conducted by Students under Foldscope Project



27th Sep 2018, Team Microworld Group visited to Jilha Parishad Girls High School, Amravati



28th Sep 2018, Microworld Group visited to Golden Kids English High School, Amravati and Spartans Group visited to Golden Kids English School, Amravati



On 5th Oct 2018, Nature Lovers Group visited to Vinayak Nagar Panchvati, Amravati

Mission Foldscope

SHRI SHANKARRAO EDUCATION SOCIETY, KARAJGAON'S
Tq. Chandur Bazar, Dis. Amravati (Regd. No. F-116 Amt.)

Shatabdi Mahotsav 1919-2019

SHRI L.C. KHERDE JUNIOR COLLEGE, KARAJGAON
INAUGURATION OF
MISSION FOLDSCOPE

With a Vision
To cultivate one million children as Neotric innovator and foldscope with every child

Wednesday, 23th January 2019

- Chelf Guest -
Hon. Dr. Praveen Rahi
NCCS Pune University

- Chalperson -
Hon. Mr. Shashank V. Sonar
President, Shri Shankarrao Education Society, Karajgaon

Hon. Mr. Sandip D. Sonar
Vice President, Shri Shankarrao Education Society, Karajgaon

Hon. Mr. Ganesh A. Madghe
Secretary, Shri Shankarrao Education Society, Karajgaon

- Guest -

Hon. Dr. Dileep Malkhede
Adver AICTE, New Delhi

Prof. Dipalee D. Malkhede
Principal Investigator & Mentor, Foldscope Project
Savitribai Phule Pune University, Pune

Hon. Dr. Dinesh D. Khedkar
Foldscope Project Investigator
Shri Shivaji Science College, Amravati

Hon. Mr. Mohan Ghongate
Principal Investigator Foldscope Project
Bharat Vidyalaya, Buldhana

PRESENTATIONS OF RESEARCH PAPERS AT NAGPUR

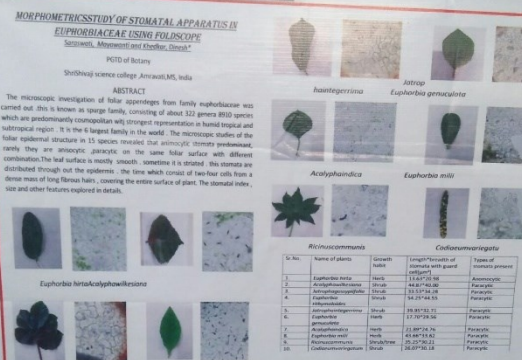


L10

MORPHOMETRICS STUDY OF STOMATAL APPARATUS IN EUPHORBIACEAE USING FOLDSCOPE
Srivastava, Manojkumar and Chatter, Chandra

PGD of Botany
Shri Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, Mumbai

ABSTRACT
The microscopic investigation of foliar appendages from family Euphorbiaceae was carried out. This is known as spurge family, consisting of about 322 genera 8000 species which are predominantly cosmopolitan with strongest representation in humid tropical and subtropical regions. It is the 4th largest family in the world. The microscopic studies of the foliar epidermal structure in 15 species revealed that anisocytic stomata predominate. Rarely they are anisocytic, paracytic on the same foliar surface with different combinations. The leaf surface is mostly smooth, sometimes it is obtuse. The stomata are distributed through out the epidermis, the time which consist of two four cells from a dense mass of long fibrous hairs, covering the entire surface of plant. The stomatal index, size and other features explained in detail.



Sl. No.	Name of plants	Stomatal Index (%)		Type of stomatal process
		Upper surface	Lower surface	
1.	Euphorbia hirta	11.87 ± 0.38	10.00 ± 0.15	Anisocytic
2.	Euphorbia corollata	10.57 ± 0.38	10.00 ± 0.15	Paracytic
3.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic
4.	Euphorbia pulcherrima	10.57 ± 0.38	10.00 ± 0.15	Paracytic
5.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic
6.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic
7.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic
8.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic
9.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic
10.	Euphorbia tirucalli	10.57 ± 0.38	10.00 ± 0.15	Paracytic

RESULTS:

- The stomata are present in both surface. But only seen only on the abaxial surface in species in the same genus.
- Paracytic and Anisocytic stomata were found in 15 genera in Euphorbiaceae family. Anisocytic stomata were found in 10 genera in Euphorbiaceae family.
- Paracytic stomata were found in 5 genera in Euphorbiaceae family.
- Stomatal index was found to be 10.57 ± 0.38.
- Stomatal index was found to be 10.00 ± 0.15.
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REFERENCES:

- Wardlaw, I.F. (1985). The Biology of Stomata. McGraw-Hill, London.
- Wardlaw, I.F. (1985). Stomatal density and stomatal index in relation to leaf area and photosynthesis. Journal of Agricultural Science, Cambridge, 104, 1-10.
- Wardlaw, I.F. (1985). Stomatal control and its relation to transpiration in cool temperate deciduous forest. Journal of Agricultural Science, Cambridge, 104, 1-10.

INSTITUTE OF SCIENCE
Internal Quality Assurance Cell &
Government Institute of Forensic Science, Nagpur
2 Days National Students Conference- NSC-2019
ON
"EMERGING TRENDS IN FUNDAMENTAL SCIENCES"
CERTIFICATE
2019

This is to certify that Mr./Ms./Mrs. Shreya Solanke of Shivaji Science College, Amravati has participated in the two day National Students Conference held on 6-7th March 2019. He/She has presented an Oral/Poster Presentation entitled Taxonomic diversity in epidermal cells of some and has secured — Position. selected an biophyta

Dr. Jairam M. Khobragade
Director
Govt. Institute of Forensic Science, Nagpur

Dr. Ramdas G. Atram
Director
Institute of Science, Nagpur

Co-Sponsors:
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Nagpur

Following are the unique outcomes of the project -

1. Students are exploring many ways to use the foldscope.
2. The critical approach of the students is developing through this project leading them towards better research.
3. Conducting research at undergraduate level is an outstanding concept came up out of the project.
4. Students' Exchange programme with the North East partner of the project resulted into exchange of thoughts between students of remote places.
5. The scientific publications to the credit of the UG students will be exceptional thing in the lives of the students and history of the institution.
6. Research papers presentation at National level conference.

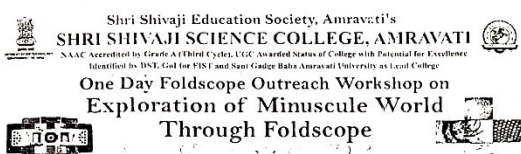
List of the Workshops Conducted and number of Students benefitted

S.N	DETAILS	Date	No of Students Trained
1	WORKSHOP AT SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI	22/08/2018	87
2	NEEVAM THE SCHOOL, AMRAVATI	05/09/2018	48
3	TAKHATMAL ENGLISH HIGH SCHOOL, AMRAVATI	06/09/2018	64
4	INDIRA GANDHI KANYA VIDHYALAYA, GADGE NAGAR, AMRAVATI	07/09/2018	54
5	"PRASHNACHINH ?" ADIVASHI ASHRAM SCHHOL, MANGROOL CHAVHALA, NANDGAO (KH), AMRAVATI	23/09/2018	51
6	SHRI VYANKATESH NIRMAL VIDYALAYA, WALGAON	24/09/2018	67
7	LATE BABASAHEB WARHADE HIGHSCHOOL, WALGAON	24/09/2018	38
8	NEW ENGLISH SCHOOL, BELPURA	25/09/2018	54
9	KANYA VIDYALAYA, AMRAVATI (MORNING)	26/09/2018	45
10	KANYA VIDYALAYA, AMRAVATI (AFTERNOON)	26/09/2018	49
11	ADRASH PARTAMIK SCHOOL AMRAVATI	26/09/2018	51
12	SHASHWAT CONCEPT SCHOOL , AMRAVATI	27/09/2018	55
13	GANESHDAS RATHI SCHOOL, AMRAVATI	27/09/2018	67
14	JILA PARISHAD GIRLS HIGH SCHOOL, AMRAVATI	27/09/2018	55
15	JAGADAMBA SOCIETY, AMRAVATI	27/09/2018	18
16	SHAHEED SMRUTI VIDYALAYA, WALGAON	28/09/2018	40
17	GOLDEN KIDS ENGLISH HIGH SCHOOL, AMRAVATI	28/09/2018	82
18	SANT GADGE BABA ASHRAM SHALA, NAGARWADI, AMRAVATI	29/09/2018	44
19	CHILDREN'S FELLOWSHIP OF INDIA, NAYA AKOLA	02/10/2018	38
20	SAMBRAT ASHOK SCHOOL, MANJARI MHASALA	03/10/2018	66
21	VINAYAK SOCIETY, GADGE NAGAR, AMRAVATI	05/10/2018	24
22	TWINNING WORKSHOP AT AMRAVATI	09/10/2018	93
23	STUDENT EXCHANGE AT ASSAM AND MEGHALAYA	24/10/2018	102
24	PRESENTATIONS OF RESEARCH PAPERS AT NAGPUR	6 - 7/01/2019	4
25	FOLDSCOPE MISSION, KARAJGAON	23/01/2019	145
26	ONE DAY NATIONAL SEMINAR CUM WORKSHOP ON FOLDSCOPE ASSEMBLING, IMAGING AND APPLICATIONS AT MUTHAYAMMAL COLLEGE, RASIPURAM, TAMILNADU	26-27/09/2019	280
Total No. of Students trained			1721

Summary:

In the foldscope activity, students worked in society. Total nine groups of students explored and exhibited microscopic aspects of Algae, fungi, Bryophyte, Pteridophyte, Gymnosperm and Angiosperm. Every workshop was conducted by seeking official permission of the school administration. The pre and post feedback of the workshop was collected to assess its impact. School administration was also asked to provide genuine remarks to improvise the course of actions.

In the preworkshop feedback students expressed their curiosity and excitement to see the microscopic world. They were also very eager to use the handy tool like foldscope to know detailed structure of miniscule world in their home. Many of the students accepted that they have not seen any microscopic structures. Few sample feedbacks are attached here –



Pre-Workshop Feedback

A. Personal Details

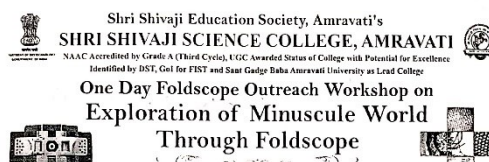
- Name of the Students: निकिता निरंजन मिनवरे
- School: बम्बटार आशोक विद्यालय Class: ५० वा
- Parent's Contact No.: ९८६७३६७७५६

B. Pre-workshop Experience

- Have you seen anything through microscope: नाही
- Have you seen any microorganism: नाही
- Which microorganisms you know (Tick): Bacteria / Algae / Fungi / Pollen grains / Cells नाही
- Do you know how the internal structure of plant is: होय
- Would you like to see this miniature world: होय
- At home have you seen anything microscopic: होय
- Will it be possible to see microscopic things at home: नाही

3/10/2018
Date:

N. N. Minavare
Signature of student



Pre-Workshop Feedback

A. Personal Details

- Name of the Students: Jayant D. Sahu
- School: Jalantmal English High school Class: ९th A
- Parent's Contact No.: ९३३३०९९२०५ / ८०८३२८५७९०

B. Pre-workshop Experience

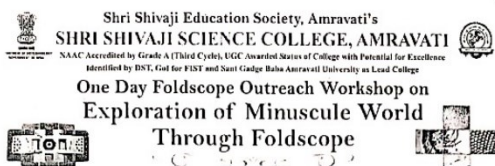
- Have you seen anything through microscope: No
- Have you seen any microorganism: No
- Which microorganisms you know (Tick): Bacteria / Algae / Fungi / Pollen grains / Cells No
- Do you know how the internal structure of plant is: No
- Would you like to see this miniature world: Yes
- At home have you seen anything microscopic: No
- Will it be possible to see microscopic things at home: No

Date: 6/1/18

Signature of student

[Signature]

Outreach Activities Conducted by Students under Foldscope Project



Pre-Workshop Feedback

A. Personal Details

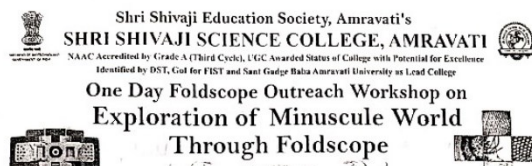
1. Name of the Students: Ku. monak s. Lonar.
2. School: Kanva vidyalay vivekanand colony Class: 10th
3. Parent's Contact No.: 9657474262

B. Pre-workshop Experience

4. Have you seen anything through microscope: Yes
5. Have you seen any microorganism: NO
6. Which microorganisms you know (Tick): Bacteria / Algae / Fungi / Pollen grains / Cells Fungi
7. Do you know how the internal structure of plant is: NO
8. Would you like to see this miniature world: NO
9. At home have you seen anything microscopic: NO
10. Will it be possible to see microscopic things at home: NO

Date: 26-03-18

[Signature]
Signature of student



Pre-Workshop Feedback

A. Personal Details

1. Name of the Students: कु. मोहिबिनी गजाननराव पुरोहित
2. School: डॉ. कल्याण गोहरी कन्या विद्यालय, डॉ. काभोजाजी, कल्याण Class: 9th
3. Parent's Contact No.: Mo: 9099831327

B. Pre-workshop Experience

4. Have you seen anything through microscope: नाही.
5. Have you seen any microorganism: नाही
6. Which microorganisms you know (Tick): Bacteria / Algae / Fungi / Pollen grains / Cells
7. Do you know how the internal structure of plant is: नाही.
8. Would you like to see this miniature world: होय.
9. At home have you seen anything microscopic: होती अचूक पाहिली.
10. Will it be possible to see microscopic things at home: होय हे शक्य नाही.

Date: 7-9-18

[Signature]
Signature of student

The feedback collected after conducting workshops in the various areas great fascination and satisfaction was reported by almost all the participating students. They want to learn much more by using foldscope. They are more eager to see many structures available at their home. The appreciations from the school children and social sections motivated volunteers to work further. Some of the feedbacks are as follows –

POST-Workshop Feedback

1. Have you seen microscopic things through Foldscope: Yes.
2. What you have seen: I have seen a Spirogyra, pollen grains, fungi and the various structure of butterfly, cotton thread and various thing it look very attractive
3. Can you identify among Bacteria / Algae / Fungi / Pollen grains / Cells yes.
4. How you can use this Foldscope at your home? I can use foldscope at our home like a microscope and I can see the
5. Do you think that its important to see microscopic things? yes; because it look very attractive and gives us the various information
6. Where the microscopic things can be seen at your home? At the walls, corners and various places like a well, near a tap, etc and I see ~~the~~ various organism like lactobacilli etc
7. In your school would you like to have Foldscope? yes.
8. Do you find the demonstrators suitable and informative, say something about them? yes, I find various information and it gives us the positive feeling and I can hardly buy it and I always say to myson it is very useful.
9. How was your experience during this workshop: I can experience a various things like a pollen grain and it very clearly
10. Would you like to continue to study through Foldscope? In what way? yes, I like to continue to study through foldscope in various ways like see a polluted water and I like very much because it gives us information used in science field.

POST-Workshop Feedback

1. Have you seen microscopic things through Foldscope: होय.
2. What you have seen: परागकुण, कुंद्यानी साल मधील सूक्ष्मजीव, बुरशी, पुवकु, शेवाल, लॅक्टोबॅसिलाय.
3. Can you identify among Bacteria / Algae / Fungi / Pollen grains / Cells Pollengrains, Fungi
4. How you can use this Foldscope at your home? लॅक्टोबॅसिलाय, परागकुण, शेवाल, बुरशी.
5. Do you think that its important to see microscopic things? होय.
6. Where the microscopic things can be seen at your home? कितीवर, पाण्याच्या टाक्यामध्ये, पाणीसाठवले असलेले घे.
7. In your school would you like to have Foldscope? होय.
- 8.
9. Do you find the demonstrators suitable and informative, say something about them? यामधून व्हितलेले जिवणू, विषणू, किटबू, यांच्यामुळे होणारे आज्ञा टाकू शकतो. हे असंख्य सम-मादिके
10. How was your experience during this workshop: ही सूक्ष्मदर्शिका आम्हाला खूप वेगळी वाटली. आणि त्याचा वापर सुद्धा सोप्या रीतीने करता येतो. त्यामुळे आम्हाला असे वाटते की ही सूक्ष्मदर्शिका शोबित असली.
11. Would you like to continue to study through Foldscope? In what way? होय. कारण- पुढी स्वाख्यानंतर आम्हीजर विज्ञान हा विषय निवडला की त्यामध्ये आम्ही स्व यांचा खूप फुलोरी माहिती मिळू शकते.

Outreach Activities Conducted by Students under Foldscope Project

POST-Workshop Feedback

1. Have you seen microscopic things through Foldscope: yes
2. What you have seen: Spisoglyna, Rhizopus and penicillium
Housefly
3. Can you identify among Bacteria / Algae / Fungi / Pollen grains / Cells _____
4. How you can use this Foldscope at your home? To see the bacteria
of our spoil bread and spoil other
vegetables and fruits
5. Do you think that its important to see microscopic things? yes, I think that
its important to see microscopic things
because I see any bacteria and spoil things
6. Where the microscopic things can be seen at your home? Kitchen, str
sink, wastebam, dustbin, old utensils
7. In your school would you like to have Foldscope? yes
8. Do you find the demonstrators suitable and informative, say something about them?
yes, that the demonstrators are very suitable
and information. they told us so much about
microbs and other organisms
9. How was your experience during this workshop: Its a very good
experience for me and I feel good
10. Would you like to continue to study through Foldscope? In what way?
yes I like to continue to study through
foldscope

POST-Workshop Feedback

1. Have you seen microscopic things through Foldscope: yes
2. What you have seen: Spisoglyna, Rhizopus, Penicillium
3. Can you identify among Bacteria / Algae / Fungi / Pollen grains / Cells _____
4. How you can use this Foldscope at your home? To see the bacteria
our bread spoil bread and spoil other vegetables
5. Do you think that its important to see microscopic things? yes, its
important to see microscopic things because
its easy to learn them and study them
6. Where the microscopic things can be seen at your home? Kitchen, wastebam,
our of our flower pots, dustbin, utensils
7. In your school would you like to have Foldscope? yes
8. Do you find the demonstrators suitable and informative, say something about them?
yes, the demonstrators is very informative
for us. its go the demonstrators show us the
Rhizopus and other micro-organisms
9. How was your experience during this workshop: Its a good
experience for me
10. Would you like to continue to study through Foldscope? In what way?
yes, I like to continue to study through
foldscope its very interesting to see anything
from foldscope than our textbooks

Outreach Activities Conducted by Students under Foldscope Project

The school principal, in charge teachers, and other staff members had also shown keen interest in the foldscope and assured to extend the activity further. The volunteer students received great acknowledgement for hosting workshop. Few feedbacks –

Feedback from Head of the Institution (In Marathi or Hindi or English)

To,


Dr. D. D. Khedkar
Project Investigator (Foldscope)
Shri Shivaji Science College, Amravati

Dear Dr.,

The students of Shri Shivaji Science College, Amravati working under Foldscope project conducted workshop on "Exploration of Minuscule World Through Foldscope" on 20/09/18 at our school Swaraj Vivekanand Gwale High School Amravati
Regarding the workshop please find the feedback as below:

- Comment about overall Workshop: All students average the nice workshop in the school
- How was the approach of the Student Demonstrators: Our school students demonstrate their project very well.
- Comment about the subject knowledge of the demonstrators: They have very good knowledge of their subject and project.
- How was the response of the school students during conference: All school student giving all answers when they ask question.
- Your suggestions to improve working under the projects: First thing when we going to school before we partic well in your collage
- Rank to three students from the demonstrator group: 1) Devgali Ronghe
2) Runali Bambal 3) Vaishnavi Bahokar
- Open Feedback: _____

Date: 20/09/18


Name and Sign of Head of Institution with Seal
प्र. विवेकानंद कॉलेजी, अमरावती

Feedback from Head of the Institution (In Marathi or Hindi or English)

To,

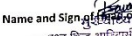
Dr. D. D. Khedkar
Project Investigator (Foldscope)
Shri Shivaji Science College, Amravati

Dear Dr.,

The students of Shri Shivaji Science College, Amravati working under Foldscope project conducted workshop on "Exploration of Minuscule World Through Foldscope" on 23 sep at our school Prashnabinh Adivasi Ashram school, Memnurg
Regarding the workshop please find the feedback as below:

- Comment about overall Workshop: It was so informative and helping student and all of us. every vention of workshop had been taught student about foldsco and about it advantage. Every demonstrator take active part in workshop. every one was fully approached them.
- How was the approach of the Student Demonstrators: Demonstrators were teaching about science and how the slides would be defined in foldscope better than microscope.
- Comment about the subject knowledge of the demonstrators: Indeed. The user of foldscope was new experience to student but after all demonstrator told them with enthusiasm.
- How was the response of the school students during conference: This very good attempt to improve awareness in student about foldscope, but it must be in amravati and collage.
- Your suggestions to improve working under the projects: Rank to three students from the demonstrator group: 1) Sushil Talange
2) Chetan Rathod 3) Usharshi Wajmare
- Open Feedback: From the opening we are using only costly microscope. that we can not easily keep with us. but the foldscope invention is very cheap and we can easily use it every where.

Date: 23/9/2018
Scanned with CamScanner


Name and Sign of Head of Institution with Seal
प्र. वि. आदिवसी आश्रम शाळा
महाराष्ट्र (वि. वि.)
ज. अमरावती प. वि. अमरावती

Outreach Activities Conducted by Students under Foldscope Project

FEEDBACK FROM HEAD OF THE INSTITUTION (IN MARATHI OR HINDI OR ENGLISH)

To, -

Dr. D. D. Khedkar
Project Investigator (Foldscope)
Shri Shivaji Science College, Amravati

Dear Dr.,

The students of Shri Shivaji Science College, Amravati working under Foldscope project conducted workshop on "Exploration of Minuscule World Through Foldscope" on 09/09/2018 at our school Trilina Ganesh Komayr School.

Regarding the workshop please find the feedback as below:

1. Comment about overall Workshop: Very good उत्कृष्ट, फारस छान
2. How was the approach of the Student Demonstrators: विद्यार्थिनीं संवाद प्रत्येकीं साक्षात् हसोना फोल्डस्कोप लक्षण माहिती दिली.
3. Comment about the subject knowledge of the demonstrators: Very good प्रोजेक्टर व्हाचे जी विद्यार्थिनींना माहिती दिली त्यामुळे विद्यार्थिनीं जिज्ञासा, उत्सुकता निर्माण केल्याने येते.
4. How was the response of the school students during conference: कारण शिकणे चांगले उपक्रमाचा विद्यार्थिनींचा उत्कृष्ट प्रतिसाद होतो.
5. Your suggestions to improve working under the projects: असा प्रकारचे कार्यशाळा इत्ये विद्यार्थिनींना प्रेरणा मिळते.
6. Rank to three students from the demonstrator group: 1) दीनक्षी वारामारे
2) नेहा उमरे 3) चेतन राठोड,
7. Open Feedback: प्रोजेक्टर व्हाचे इतरही माहिती देण्यात येता.

Date: _____

Name and Sign of Head of Institution with Seal

[Signature]
Name and Sign of Head of Institution with Seal

Feedback from Head of the Institution (In Marathi or Hindi or English)

To,

Dr. D. D. Khedkar
Project Investigator (Foldscope)
Shri Shivaji Science College, Amravati

Dear Dr.,

The students of Shri Shivaji Science College, Amravati working under Foldscope project conducted workshop on "Exploration of Minuscule World Through Foldscope" on 04/10/2018 at our school Samrat Ashok Vidyapeeth, Manjari Mhask.

Regarding the workshop please find the feedback as below:

1. Comment about overall Workshop: Very Good.
2. How was the approach of the Student Demonstrators: The student approach is demonstrator. is very Good.
3. Comment about the subject knowledge of the demonstrators: Botany and microbiological knowledge for the student exhibited.
4. How was the response of the school students during conference: Very Nice.
5. Your suggestions to improve working under the projects: Student teamwork was good.
6. Rank to three students from the demonstrator group: 1) Ku. Pranjali Bangde
2) Ku. Vaishnavi Banakar 3) Ku. Anuja Karude
7. Open Feedback: _____

Date: 01/10/2018

Name and Sign of Head of Institution with Seal

[Signature]
Name and Sign of Head of Institution with Seal

On completion of the activity the students worked in the project were asked for their learning experiences. They shared following attributes developed as achievements of this activity –

- **Creativity/Creation,**
- **Time Consumption in Best Way**
- **Curation of societal Problems,**
- **Establishment of Connection with Society,**
- **Institutional Collaboration,**
- **Communication, and**
- **Critical Thinking.**

Number of pictures/videos posted on <https://microcosmos.foldscope.com>

In the foldscope activity, students submitted foldscope slides photograph of various plants on microcosmos. Total nine groups of students worked on Algae, fungi, Bryophyte, Pteridophyte, Gymnosperm and Angiosperm. The work includes Transverse section, Longitudinal section, Structure and arrangement patterns of leaf surface etc. Student also studied cell structure, rhizoids section, spore, cell arrangement, pith, pollen grains and cell arrangement in vascular bundles.

All slides of plant section were observed under foldscope and photographs were taken by mobile phone. All the photographs were submitted on microcosmos foldscope website. There are total eight groups of students and each group submitted 10 to 15 photograph. More than 100 photographs submitted by students on microcosmos foldscope website.

Sr. No.	Group Name	Foldscope ID	No of Pictures Uploaded
1	Nature Lover Group	00023805E383	16
2	Minuscule Explorers Group	000028EE22CAE	10
3	Micromilitia Group	00028E68832D	25
4	Biotech Group	0002921F1B2C	10
5	Nature Warrior Group	0002551E6ADC	05
6	Wild Explorers Group	0002E008F23F	13
7	Spartans Group	0002949AFAA3	10
8	Micro world Group	0028E729C8D	12
9	Research group	00023CBCA291	10
10	Project Fellow	0002949AFAA3	30
Total			141

Project has instilled value of research as an essential skill to learn science and disseminate knowledge from lab to the land – *Principal Investigator*



An institutions successfully managing research in active academics are fostering students' learning in a creative educational environment, promisingly they are rocketing their students' towards making better society for future – **Dinesh Khedkar, Foldscope PI**