



"Educating hearts and minds"

HOLY CROSS COLLEGE

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DEPARTMENT OF BOTANY

REPORT ON

Two Days Hands-on Workshop for Teachers On

"Supporting Students' Sensemaking Through Karyotype: A Technology Enhanced Learning Environment and Exploring the Classroom Adaptation and Implementation"

Organized By

Department of Botany, Holy Cross College, Agartala

in collaboration with

Educational Technology, IIT- Bombay

Date: 29th February & 1st March, 2024

Background:

Department of Botany, Holy Cross College, Agartala; in collaboration with the Educational Technology, IIT-Bombay, organized a two-day hands-on workshop for teachers. The workshop focused on supporting students' sense-making through Karyotype, leveraging technology-enhanced learning environments. Karyotype, a fundamental concept in genetics, presents significant challenges in teaching and learning due to its abstract nature. The workshop aimed to address these challenges by providing teachers with practical strategies and tools to enhance student understanding and engagement with Karyotype.

Objectives of the Workshop:

- ❖ To introduce teachers to the concept of Karyotype and its significance in genetics education.
- ❖ To equip teachers with practical strategies for supporting students' sense-making of Karyotype.
- ❖ To explore technology-enhanced learning environments and tools for effective teaching of Karyotype.
- ❖ To assist teachers in adapting and implementing Karyotype pedagogy in their classrooms.

Resource Person:

Sunita Raste, Prime Ministers Research Fellow (PMRF ID 1300505), Educational Technology, IIT Bombay.

Accompanying Person:

Indrayani Nishane, Prime Ministers Research Fellow (PMRF ID 1300739), Educational Technology, IIT Bombay.

Participants of the Workshop:

Participants of the workshop included eleven (11) faculty members from the Department of Botany, Zoology and Human Physiology; Holy Cross College, Agartala.

DAY 1: 29TH FEBRUARY, 2024

Inaugural Session:

The inaugural session of the workshop, hosted by Ms. Susmita Banerjee, Assistant Professor in the Department of History, commenced with enthusiasm and anticipation for an enriching learning experience. Here's a detailed report of the proceedings:

1. **Introduction about the Workshop by Dr. Debasree Lodh:** Dr. Debasree Lodh, Head of the Department of Botany at Holy Cross College, Agartala, initiated the session by providing a comprehensive introduction to the workshop's theme and objectives. Dr. Lodh eloquently outlined the significance of supporting students' sense-making through Karyotype within the context of genetics education. Her introductory remarks effectively set the tone for the subsequent sessions, ensuring that participants understood the workshop's goals and relevance.
2. **Welcome Address by Dr. Fr. Benny K John:** Following Dr. Lodh's introduction, Dr. Fr. Benny K John, Principal, Holy Cross College, Agartala, delivered a warm and encouraging welcome address. Dr. John extended heartfelt greetings to all attendees, expressing his appreciation for their participation. He underscored the importance of professional development workshops in enhancing teaching practices and fostering a culture of continuous learning within the academic community.
3. **Introduction of the Resource Person by Dr. Somnath Kar:** Dr. Somnath Kar, Assistant Head of the Department of Botany, Holy Cross College, Agartala, took the stage to introduce the esteemed resource person for the workshop. With enthusiasm and reverence, Dr. Kar provided a brief overview of the resource person's expertise and achievements, highlighting their invaluable

contributions to the field of education. His introduction set the stage for the resource person's impactful engagement with the participants.

4. **Felicitation of the Resource Person:** The organizers took a moment to felicitate the resource person, acknowledging their exemplary dedication to advancing teaching practices. This gesture of appreciation served to honor the resource person's expertise and commitment, fostering a sense of mutual respect and admiration among the attendees.
5. **Address by Dr. Sushobhan Sengupta:** Dr. Sushobhan Sengupta, Coordinator of the Internal Quality Assurance Cell (IQAC), Holy Cross College, Agartala, delivered an address emphasizing the importance of continuous professional development in the academic realm. Dr. Sengupta underscored the role of workshops like the present one in equipping educators with the knowledge and skills necessary for delivering high-quality education.
6. **Introductory Speech on Karyotype by Ms. Sunita Raste:** Ms. Sunita Raste, the esteemed Resource Person, delivered an introductory speech on Karyotype, elucidating its significance in genetics education. Ms. Raste provided valuable insights into the teaching-learning challenges associated with Karyotype and outlined the workshop's approach to addressing these challenges. Her speech served to inspire and motivate the participants, setting the stage for meaningful engagement with the workshop content.
7. **Vote of Thanks by Dr. Sudipta Sinha:** Dr. Sudipta Sinha, Assistant Professor, Department of Botany, Holy Cross College, Agartala, delivered a vote of thanks, expressing gratitude to all participants, organizers, collaborators and sponsors for their invaluable contributions to the success of the inaugural session. Dr. Sinha extended special thanks to Ms. Susmita Banerjee for her gracious hosting of the program, ensuring its smooth conduct and warm atmosphere.
8. **National Anthem:** The inaugural session concluded with the rendition of the national anthem, symbolizing unity, patriotism and collective spirit among all attendees as they embarked on their journey of learning and professional growth.

The inaugural session set a positive tone for the workshop, fostering a sense of camaraderie and enthusiasm among participants as they prepared to delve into the intricacies of genetics education and Karyotype.



Pictures: Inaugural Session on 29th February, 2024



GPS Map Camera

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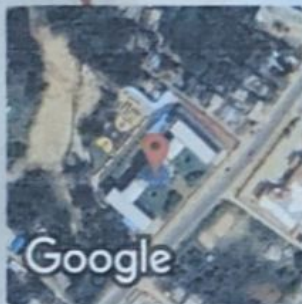
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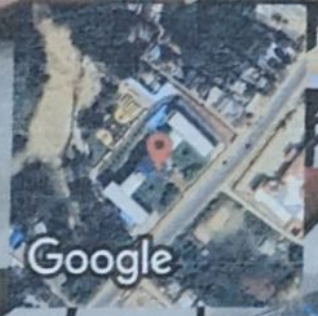
Pictures: Inaugural Session on 29th February, 2024



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Pictures: Inaugural Session on 29th February, 2024

Technical Session- I:

Interaction with Karyotype, Goal Explanation, Brainstorming, and Mapping Session.

The first technical session of the workshop delved into interaction with Karyotype, elucidation of goals, brainstorming activities and mapping sessions. Here's a detailed report:

1. Interaction with Karyotype:

- Participants engaged in hands-on activities aimed at familiarizing themselves with Karyotype, a fundamental concept in genetics.
- Through guided exercises and case studies, participants gained practical experience in analyzing and interpreting Karyotype data.

2. Goal Explanation:

- The session included an explanation of the goals set for the workshop.
- Facilitators elucidated the stages of implementation and outlined deliverables expected from each stage, providing participants with a clear roadmap for the workshop activities.

3. Brainstorming Session:

- Participants engaged in a collaborative brainstorming session, either individually or in pairs.
- The objective was to identify topics from the syllabus that could be adapted using Karyotype pedagogy, fostering creativity and innovation in lesson planning.

4. Mapping Session:

- Following the brainstorming activity, participants engaged in a mapping session.
- They mapped the identified topics to Karyotype pedagogy, ensuring alignment with curriculum objectives.
- Participants also designed learning activities corresponding to each phase, thereby enhancing their understanding of how Karyotype could be integrated into their teaching practices.

Technical Session- II:

Technology and Tools for Creating Resources, followed by Designing Learning Activities.

The second technical session focused on technology tools for creating resources and designing learning activities. Here's a summary of the session:

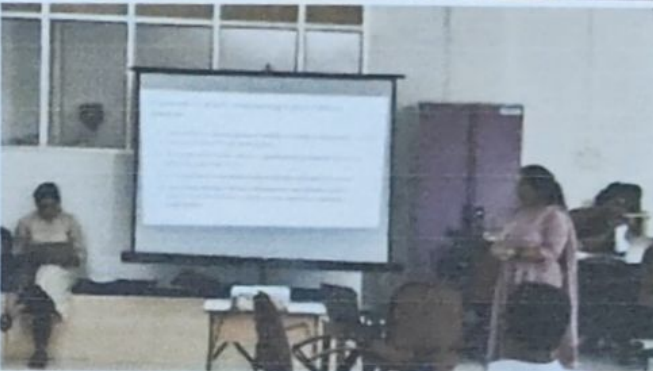
1. Technology and Tools for Curating and Creating Resources:

- Facilitators conducted a hands-on demonstration of various technology tools suitable for curating and creating resources.
- Participants were introduced to a range of tools and platforms that could enhance the creation of engaging learning materials.

2. Designing and Creating Learning Activities with the help of Tools:

- Building on the technology demonstration, participants engaged in designing learning activities tailored to their topics.
- With the guidance of facilitators, participants explored how technology tools could be integrated into their lesson plans to create dynamic and interactive learning experiences.
- Emphasis was placed on aligning learning activities with curriculum objectives and fostering active engagement among students.

The technical sessions provided participants with practical skills and strategies for integrating Karyotype pedagogy into their teaching practices. Through hands-on activities, goal-oriented discussions and exploration of technology tools, participants were equipped with the knowledge and resources needed to enhance student learning experiences in genetics education.



Pictures: Technical Session- I on 29th February, 2024



Pictures: Technical Session- II on 29th February, 2024

DAY 2: 1ST MARCH, 2024

Technical Session- III:

Familiarization with Google Sites and Preparing Instructional Design Documents.

The third technical session of the workshop focused on familiarizing participants with Google Sites and preparing instructional design documents. Here's a detailed report of the session.

1. Familiarization with Google Sites:

- Participants were introduced to Google Sites, a web-based platform for creating and sharing digital content.
- Facilitators provided step-by-step guidance on navigating the interface, creating pages and customizing layouts to suit educational purposes.
- Participants had the opportunity to explore the features of Google Sites hands-on, gaining confidence in utilizing the platform for educational purposes.

2. Preparing Instructional Design Documents:

- Following the familiarization with Google Sites, participants were guided through the process of preparing instructional design documents.
- Facilitators discussed the key components of instructional design, including learning objectives, content organization, assessment methods and evaluation criteria.
- Participants learned how to structure their instructional materials effectively to maximize student engagement and learning outcomes.

Technical Session IV:

Session on Active Learning Strategies, Feedback Session and Certificate Distribution.

The fourth technical session of the workshop focused on active learning strategies, followed by a feedback session and certificate distribution. Here's a summary of the session:

1. Session on Active Learning Strategies:

- Facilitators led a discussion on various active learning strategies aimed at enhancing student engagement and participation in the classroom.
- Participants learned about the benefits of active learning approaches, such as group discussions, problem-solving activities and hands-on experiments.

- Practical examples and case studies were presented to illustrate how active learning strategies could be implemented effectively in different educational contexts.

2. Feedback Session:

- Following the session on active learning strategies, participants engaged in a feedback session to reflect on their learning experience.
- Facilitators invited participants to share their thoughts, insights and suggestions for improving future workshops.
- Feedback from participants were collected to inform the planning and development of future professional development initiatives.

3. Certificate Distribution:

- The workshop concluded with the distribution of certificates to participants in recognition of their active participation and successful completion of the workshop.
- Certificates were presented by workshop organizers and collaborators, acknowledging participants' commitment to professional development and excellence in education.

Overall, the technical sessions provided participants with valuable knowledge and skills to enhance their teaching practices and promote student learning. Through hands-on activities, discussions and feedback sessions, participants gained practical insights and resources to implement innovative pedagogical approaches in their classrooms. The workshop culminated in a celebratory certificate distribution, marking the successful completion of the program and recognizing participants' dedication to continuous learning and professional growth.

Vote of Thanks:

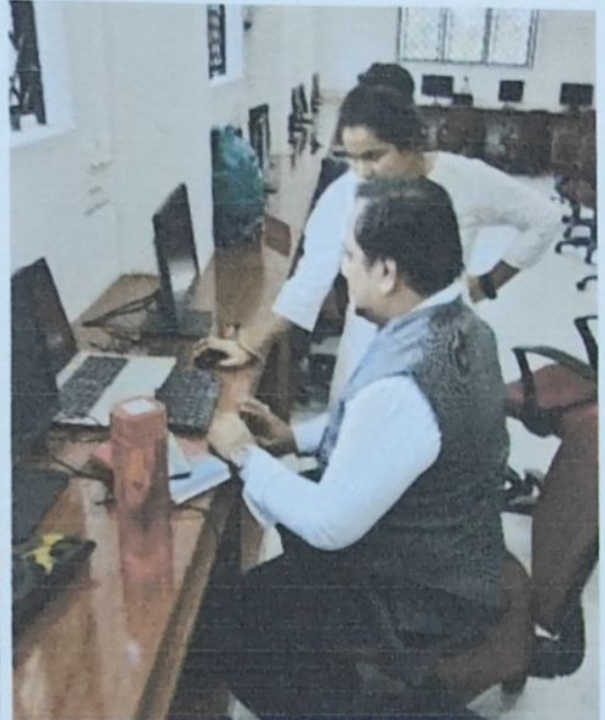
After the conclusion of the workshop's sessions and activities, Dr. Rumki Nath Sen, HOD and Assistant Professor, Department of Zoology, delivered a heartfelt vote of thanks.



Pictures: Technical Session- III on 1st March, 2024



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Pictures: Technical Session- IV on 1st March, 2024



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Outcomes of the workshop:

The workshop achieved its objectives through a series of interactive sessions, hands-on activities and discussions. Key outcomes include:

1. Increased Understanding of Teaching Challenges:

- Teachers gained a deeper comprehension of the difficulties associated with teaching Karyotype, a complex genetic concept.
- They recognized the importance of sense-making, i.e., helping students make meaning of the subject matter, in facilitating effective learning outcomes.

2. Familiarization with Karyotype:

- Through hands-on activities, teachers became acquainted with Karyotype, which involves analyzing the chromosome composition of an organism.
- This practical engagement enhanced teachers' own understanding of Karyotype, enabling them to explain it more effectively to their students.

3. Identification of Adaptation Topics:

- Teachers identified specific topics from the curriculum that could be adapted using Karyotype pedagogy.
- This process encouraged teachers to think creatively and innovatively about how to integrate Karyotype into their lesson plans, making learning more engaging for students.

4. Mapping Topics to Karyotype Pedagogy:

- Identified topics were mapped to the principles of Karyotype pedagogy, ensuring that teaching methods aligned with the learning objectives.
- Teachers designed learning activities tailored to each phase of understanding Karyotype, thereby ensuring a comprehensive and aligned curriculum.

5. Exposure to Technology Tools:

- Teachers were introduced to a variety of technology tools that could aid in curating and creating resources for teaching Karyotype.
- This exposure empowered teachers to leverage technology in developing interactive and engaging learning materials, enhancing student interest and comprehension.

6. Practical Experience in Designing Activities:

- Teachers gained hands-on experience in designing and creating learning activities using technology tools.
- This practical engagement enabled teachers to incorporate active learning techniques into their teaching practices, fostering student engagement and deeper understanding.

7. Training in Google Sites and Instructional Design:

- Teachers received training in utilizing Google Sites, a platform for organizing and sharing teaching materials.
- They also learned about instructional design principles, enabling them to create structured and effective learning experiences for their students.

8. Exploration of Active Learning Strategies:

- Teachers explored various active learning strategies designed to promote student participation and comprehension.
- Through this exploration, teachers acquired a toolkit of effective teaching techniques to enhance student learning experiences in the classroom.

Feedback:

Participants provided positive feedback on the workshop, highlighting its relevance, interactive nature and practical approach. They appreciated the opportunity to engage with Karyotype hands-on and explore technology tools for enhancing teaching and learning. Many expressed confidence in implementing Karyotype pedagogy in their classrooms and appreciated the support provided by the workshop facilitators. Suggestions for future workshops included deeper dives into specific technology tools and more opportunities for peer collaboration and sharing of best practices.

Conclusion:

The two-day hands-on workshop on "Supporting Students' Sensemaking Through Karyotype" provided teachers with valuable insights, strategies and tools for enhancing genetics education. By combining theoretical knowledge with practical application and technology integration, the workshop equipped participants to engage students effectively and foster a deeper understanding of Karyotype. The collaborative efforts of Holy Cross College, Agartala and Educational Technology, IIT-Bombay contributed to the success of the workshop, laying the foundation for continued innovation and excellence in education.

Report Prepared By-

Somnath Kar
28/3/24

Dr. Somnath Kar
Assistant Professor
Department of Botany
Holy Cross College, Agartala

DL
28/03/2024

Dr. Debasree Lodh
HOD, Department of Botany
Holy Cross College, Agartala

HEAD
Department of Botany,
HOLY CROSS COLLEGE, AGARTALA

To
The Principal
Holy Cross College
Agartala

Subject: Request for Permission to conduct workshop on “Supporting students’ sensemaking through Karyotype: a technology enhanced learning environment and exploring the classroom adaptation and implementation” at Department of Botany, Holy Cross College, Agartala on 29th Feb to 1st March, 2024.

Respected Father,

On behalf of Department of Botany, Holy Cross College, Agartala, I am writing to seek your kind permission to conduct two days workshop in Department of Botany for the Bioscience faculty members on **“Supporting students’ sensemaking through Karyotype: a technology enhanced learning environment and exploring the classroom adaptation and implementation”** by Sunita Raste, Ph.D. Research Scholar, Department of Educational Technology, Indian Institute of Technology, Bombay, on 29th Feb to 1st March, 2024.

“Karyotype” is a web-based Technology Enhanced Learning Environment (TELE) designed to facilitate learner’s sensemaking during clinical diagnosis of genetic disorders. The pedagogy and technology of Karyotype can be applied to other topics as well. This workshop aims to offer faculty members a dynamic, interactive and hands-on experience to empower teachers in shaping the design and pedagogy of various topics or contexts. Integrating Karyotype into the classroom setting, whether during theoretical lectures or practical sessions, serves as a valuable complementary tool to the curriculum.

The workshop will be conducted as a part of research and outreach activity under the scope of Ms. Sunita Raste’s Ph.D. Thesis work. There is no monetary obligation associated with the workshop as well as no involvement of any external fund required for this workshop.

Department of Botany is confident that conducting this workshop will provide valuable insights and contribute to the Bioscience faculty of HCC.

I kindly request your permission to access the college premises, facilities, and engage with the participants involved in this workshop.

I look forward to your positive response and the opportunity to contribute to the academic and research environment at Holy Cross College.

With regards,

Thanking you,

Date: 06.02.2024

Approved
[Signature]
07/02/2024
PRINCIPAL
HOLY CROSS COLLEGE
AGARTALA

Dr. Debasree Lodh
Dr. Debasree Lodh 06/02/2024

HOD & Assistant Professor
Dept of Botany
Holy Cross College, Agartala

HEAD
Department of Botany,
HOLY CROSS COLLEGE, AGARTALA



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To

Sunita Ananda R.
Prime Minister's Research Fellow
Educational Technology
Indian Institute of Technology Bombay
Powai, Mumbai 400076

Through the Proper Channel

Subject: Request to attend Two Days Hands-on Workshop as a Resource Person on 29th February to 1st March, 2024, organized by Department of Botany, HCC.

Madam,

I hope this letter finds you in good health and high spirits. I am writing to inform you that, Department of Botany, HCC is going to organize Two Days Hands-on Workshop for Teachers on "Supporting Students' Sensemaking Through Karyotype: A Technology Enhanced Learning Environment and Exploring the Classroom Adaptation and Implementation" at Department of Botany, Holy Cross College, Agartala in collaboration with Educational Technology, IIT-Bombay on 29th February to 1st March, 2024

On behalf of Department of Botany, Holy Cross College, Agartala, I am delighted to extend an invitation to you to attend as a 'Resource Person' for the aforesaid workshop.

Your participation as a 'Resource Person' would greatly contribute to the success and effectiveness of this workshop, providing valuable insights and perspectives to our participants. Your expertise aligns perfectly with the themes we aim to explore during the workshop. We would be honoured to have you share your knowledge and expertise with our faculty members.

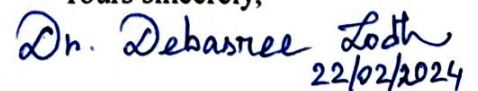
Thanking you,

Date: 22.02.2024

Approved

22/02/2024
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AGARTALA

Yours sincerely,


22/02/2024

Dr. Debasree Lodh
HOD, Department of Botany
Holy Cross College, Agartala

HEAD
Department of Botany,
HOLY CROSS COLLEGE, AGARTALA

Two Days Hands-on Workshop for Teachers

On

“Supporting Students’ Sensemaking Through Karyotype: A Technology Enhanced Learning Environment and Exploring the Classroom Adaptation and Implementation”



Organized by:

Department of Botany

Holy Cross College, Agartala

Lembucherra P.O, Tripura West -799210



In collaboration with



Educational Technology
IIT- Bombay

Ms SUNITA RASTE
PhD Scholar, PMRF fellow
Educational Technology,
IIT-Bombay

Date:

29th February &
1st March, 2024

Convener:

Dr. Debasree Lodh, HOD & Assistant Professor
Department of Botany, Holy Cross College, Agartala

Joint Convener:

Dr. Somnath Kar, Assistant Professor
Department of Botany, Holy Cross College, Agartala

Members:

Dr. Dipanwita Chaudhuri Sil, Assistant Professor
Department of Botany, Holy Cross College, Agartala

Dr. Sudipta Sinha, Assistant Professor
Department of Botany, Holy Cross College, Agartala

Karyotype:

Web-based Technology
Enhanced Learning
Environment (TELE)

“Understand, evaluate and adopt
Karyotype in your classroom to support
students sensemaking”

Click Here to
Register



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KARYOTYPE

Dear TEACHERS,

Clinical diagnosis of genetic disorders caused due to abnormalities such as change in the number or structure of entire chromosomes, or a specific part of the chromosome carrying a particular gene requires sensemaking based on the symptoms of a patient, to make decisions regarding the treatment. Students need sensemaking and reasoning skills to build a scientific explanation by analysing the symptoms and connecting it with chromosomal abnormalities. However, students often learn genetics as separate, unrelated concepts, and face difficulty in understanding how they are related. Due to the lack of experience and not being immersed in the phenomena being investigated, novice learners, when introduced to new concepts, perceive them as an activity of mere memorization of facts and procedures. Though sensemaking and reasoning are essential to the way scientists construct knowledge, the majority of science undergraduate students lack these skills. This is partly due to the undergraduate science laboratories being fact-laden, non-inquiry based, with activities that do not support the development of sensemaking and reasoning skills explicit. Apart from these cognitive aspects, clinical diagnosis also involves affective aspects such as forming a personal connect with the cases. This is important to be immersed and involved in the process of diagnosis. Being empathetic towards patients and their stories helps in relating the given situation to prior knowledge and experiences, to build explanations regarding the new situation encountered. Empathy helps the learner to be more attentive and considerate towards minute details that might be significant for the diagnosis.

Karyotype is a web-based technology enhanced learning environment (TELE) where students are given the task of diagnosing the genetic disorders of patients while assuming the role of a geneticist. It uses a case-based reasoning approach where the students are given a set of symptoms and asked to explain them with the help of given information to suggest a diagnosis. Karyotype provides **hands-on learning experience** of the diagnosis process where students build and revise their explanations while solving cases of genetic disorders through a series of learning activities.

So far we have conducted research studies using Karyotype, with **over 100 students (UG,PG Bioscience majors)** from **3 different states (Kerala, Karnataka and Maharashtra)**. Our findings suggest that working with Karyotype helps students in Sensemaking during clinical diagnosis in a TELE. We have established the design and pedagogy of Karyotype for one topic/context *i.e* Clinical diagnosis of genetic disorders.

We now wish to further expand it by exploring the possibilities of **implementing Karyotype in classroom** (during theory lecture or practical) as a tool complementary to the curriculum. We would also love to explore adapting Karyotype pedagogy for other potential topics in the Undergraduate Bioscience curriculum.

Your help with this regard would be highly appreciated.



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Two Days Hands-on Workshop for Teachers On

"Supporting Students' Sensemaking Through Karyotype: A Technology Enhanced Learning Environment and Exploring the Classroom Adaptation and Implementation"

Organized By:

Department of Botany, Holy Cross College, Agartala

in collaboration with

Educational Technology, IIT- Bombay

Date: 29th February & 1st March, 2024

Programme Schedule

Day 1: 29th February, 2024

	Time	Session	Details
Day 1: 29 th February, 2024	Inaugural Session	09:30 AM - 09:35 AM	Introduction about the Workshop. By- Dr. Debasree Lodh, HOD, Dept. of Botany, HCC.
		09:35 AM - 09:40 AM	Welcome Address. By- Dr. Fr. Benny K John, CSC. Principal, Holy Cross College, Agartala.
		09:40 AM - 09:44 AM	Introduction of the Resource Person. By- Dr. Somnath Kar, Asst. HOD, Dept. of Botany, HCC.
		09:44 AM - 09:45 AM	Falicitation of the Resource Person.
		09:45 AM - 09:50 AM	Address By- Dr. Sushobhan Sengupta, IQAC Coordinator, HCC.
		09:50 AM - 09:55 AM	Introductory Speech -Introduction to Karyotype- conveying the Teaching learning problem and our solution approach. By- Ms. Sunita Raste, Resource Person.
		09:55 AM - 09:58 AM	Vote of Thanks. By- Dr. Sudipta Sinha, Dept. of Botany, HCC.
		09:58 AM - 10:00 AM	National Anthem.
		Tea Break (10:00 AM - 10:10 AM)	
	10:10 AM - 10:30 AM	Interaction with Karyotype (Hands-on)	



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	Technical Session I		- Familiarizing with Karyotype (solving case- Lilly, till the end)	
		10:30 AM - 10:45 AM	Explaining the goal for this session - Understanding the stages of implementation and deliverables for each stage.	
		10:45 AM - 11:30 AM	Brainstorming Session - Working individually or in pairs to identify topics from the syllabus that can be adapted using Karyotype pedagogy.	
		11:30 AM - 12:40 PM	Mapping Session - Mapping of the topic to karyotype pedagogy and to identify and design learning activities corresponding to each phase.	
	Lunch Break (12:40 PM- 01:30 PM)			
	Technical Session II	01:30 PM - 02:15 PM	Technology and tools for curating and creating resources - Hand-on demo session of selective tools. SR and team will show demo of different tools and technology that can be used for creating resources.	
		Break (02:15 PM - 02:20 PM)		
		02:20 PM - 03:20 PM	Design and create learning activities with the help of tools - Participants will design and create learning activities suitable for their topics and how it will be taught in the classroom.	
	Day 2: 1st March, 2024			
	Day 2: 1 st March, 2024	Technical Session III	9:30 AM - 10:00 AM	Familiarizing with Google sites (in general) and template (in specific).
10:00 AM - 11:30 AM			Preparing Instructional design document.	
Tea Break (11:30 AM - 11:45 AM)				
11:45 AM - 12:00 PM			Summarizing your Instructional design document.	
Lunch Break (12:00 PM - 01:00 PM)				
Technical Session IV		01:00 PM - 02:00 PM	Session on Active learning strategies.	
	Break (02:00 PM - 02:10 PM)			
	02:10 PM - 03:00 PM	Feedback Session and Certificate Distribution.		








**Two Days Hands-on Workshop for Teachers On “Supporting Students’ Sensemaking Through Karyotype:
A Technology Enhanced Learning Environment and Exploring the Classroom Adaptation and Implementation”**

Date: 29th February & 1st March, 2024

Organized By: Department of Botany, Holy Cross College, Agartala; In collaboration with Educational Technology, IIT- Bombay

ATTENDANCE OF THE PARTICIPANTS

Day 1: 29th February, 2024

Sl No.	Full Name	Department & Institute	Signature
1.	Sunita Raste	ET - IITB	
2.	Indrayani Nishane	ET - IITB	
3.	Dr. Parichit Ray Choudhury	Dept. of Zoology, Holy Cross College, Agartala	
4.	Dr. Runki Nath Sen	Dept. of Zoology, Holy Cross College	
5.	Dr. Subhalaxmi Bhattacharjee	Dept. of Zoology HCC, Ag	
6.	Dr. Susmita Saha	Dept. of Human Physiology	
7.	Mr. Kanak Chakraborty	Dept. of Human Physiology	

SI No.	Full Name	Department & Institute	Signature
8.	Dr. Ashish Kr. Singha	Human Physiology	Ashish
9.	Dr. Sandeep Roy Sarkar	Human Physiology	Sandeep
10.	Dr. Somnath Kan	Botany	Skan
11.	Dr. Sudepta Sinha	Botany	Sinha
12.	Dr. Debasree Lath	Botany, Holy Cross College	Debasree
			Debasree 29/02/2024 HEAD Department of Botany, HOLY CROSS COLLEGE, AGARTALA

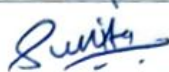






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Day 2: 1st March, 2024

Sl. No.	Full Name	Department & Institute	Signature
1.	Sunita Raste	ET- IITB	
2.	Indrayani Nishane	ET- IITB	
3.	Dr. Parichit Ray Choudhury	Dept. of Zoology, Holy Cross College, Agartala	
4.	Dr. Runki Nalgi Sen	Dept. of Zoology, Holy Cross College	
5.	Dr. Seelakshmi Bhattacharjee	Dept. of Zoology, HCC, Agt	
6.	Dr. Susmita Saha	Dept. of Human Physiology	
7.	Mr. Kanak Chakrabarty	Dept. of Human Physiology	

Sl. No.	Full Name	Department & Institute	Signature
8.	Dr. Ashish K. Chakrabarti	Human physiology	Ashish K.
9.	Dr. Sandeep Roy Sarkar	Human Physiology	Sandeep Roy Sarkar
10.	Dr. Samanth Kan	Botany	Samanth Kan
11.	Tapas Kumar Sharma	Zoology, Holy Cross College, Agartala.	Tapas Kumar Sharma
12.	Dr. Debasree Lath	Botany, Holy Cross College, Agt	Debasree Lath
			Lath 02/03/2024 HEAD Department of Botany, HOLY CROSS COLLEGE, AGARTALA



"Educating hearts and minds"

HOLY CROSS COLLEGE

ACCREDITED BY NAAC WITH 'A+' GRADE (CYCLE:2)

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Organized By:

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In collaboration with

Educational Technology, IIT- Bombay

Date: 29th February & 1st March, 2024

Responsibility List

Sl. No.	Responsibilities	Names
1.	Introduction about the Workshop	Dr. Debasree Lodh, HOD & Assistant Professor, Botany Dept.
2.	Introduction about the Resource Person	Dr. Somnath Kar, Asst. HOD & Assistant Professor, Botany Dept.
3.	Vote of Thanks	Dr. Sudipta Sinha, Assistant Professor, Botany Dept. Dr. Dipanwita Chaudhuri Sil, Assistant Professor, Botany Dept.
4.	Playing of National Anthem	Dr. Somnath Kar, Asst. HOD & Assistant Professor, Botany Dept.
5.	Overall Hall Arrangement	Dr. Somnath Kar, Asst. HOD & Assistant Professor, Botany Dept. Dr. Sudipta Sinha, Assistant Professor, Botany Dept. Mr. Papan Datta, Lab Assistant
6.	MC	Dr. Sudipta Sinha, Assistant Professor, Botany Dept.
7.	Registration & Attendance of the Participants	Dr. Sudipta Sinha, Assistant Professor, Botany Dept.
8.	Communication with the Resource Person	Dr. Debasree Lodh, HOD & Assistant Professor, Botany Dept. Dr. Somnath Kar, Asst. HOD & Assistant Professor, Botany Dept.
9.	Arrangement of the Refreshment	Mr. Papan Datta, Lab Assistant, Botany Dept.
10.	Photography	Mr. Papan Datta, Lab Assistant, Botany Dept.
11.	Report Writing & Feedback Collection	Dr. Sudipta Sinha, Assistant Professor, Botany Dept.


22/02/2024
HEAD
Department of Botany,
HOLY CROSS COLLEGE, AGARTALA



CERTIFICATE OF APPRECIATION



This certificate is presented to

Dr. Debasree Lodh

Assistant Professor, Department of Botany, Holy Cross College,
Agartala

for organizing and coordinating the workshop for teachers on **'Supporting Students'
Sensemaking through Karyotype: A Technology-Enhanced Learning
Environment'**

in association with IDP-Educational Technology, IIT Bombay
Held on 29th February to 1st March 2024 at the Department of Botany, Holy Cross
College, Agartala

Ms. Sunita Raste

Prime Minister's Research Fellow
IDP-Educational Technology, IIT Bombay

Prof. Sahana Murthy

Professor and Convener
IDP-Educational Technology, IIT Bombay



CERTIFICATE OF PARTICIPATION



This certificate is presented to

Dr. Rumki Nath Sen

for participating in the workshop for teachers on 'Supporting Students' Sensemaking through Karyotype: A Technology-Enhanced Learning Environment' organized by IDP-Educational Technology, IIT Bombay in association with the Department of Botany, Holy Cross College, Agartala on 29th February to 1st March 2024.

Dr. Debasree Lodh
Head, Dept. of Botany
Holy Cross College, Agartala

Dr. Fr. Benny K. John, CSC
Principal
Holy Cross College, Agartala

Prof. Sahana Murthy
Professor and Convener
IDP-Educational Technology, IIT Bombay



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