iGEM IIT Roorkee

Webinar Framework

iGEM
IIT ROORKEE

iGEM
2020

1. Teaching Activity & Content Creation

When we talk about education, we are acquainted with receiving knowledge and learning processes. It was the first time we got to see the other side of the coin and engaged to teach. The webinar session was a great learning activity for our team as a part of which we undertook content creation activity and closely understood the process of teaching.

The Process of Creating PPT and surveys:

Brainstorm:

We started with the youngest, due to their natural curiosity to learn and understand the unexplored and exciting fields of academia. The team started brainstorming on different ideas to make the learning fun for the kids, and that's when the idea of conducting a webinar popped in our heads. The structuring for the same began in Mid June 2020.

The next step was to curate content according to the flow of presentation to make it more interactive. Healthy discussions and arguments were observed, and an efficient plan for content curation was finalized along with a 45 minutes presentation session and 15 minutes Q & A session.

To encounter the learning outcome from the student's end, two review surveys were planned as a pre-webinar survey and a post-webinar survey. The purpose of presentation and surveys was to impart the basics of science and analyze the understanding level of students and teachers as responsible beings.

Division of the target audience:

After going through coursebooks of different standards, the target subjects were the students of classes 7^{th} - 12^{th} and the teaching faculty of the organization. This division was purely based on the fact that the connection of a student with science develops from middle school, where practical applications of science are in order. Our expectation for a different kind of exposure was also a factor, as the segment involving school children is entirely different from that of universities, or corporate firms.

Basis for Topic Division:

Now that our target audience was fixed, we started working on the topics/concepts that were to incorporate in the talk. These broader segments involved the basics of Biology, Synthetic Biology, Antimicrobial Resistance, and Machine Learning.

For 7th - 8th students' Segment: The presentation started with a basic introduction to DNA and Synthetic biology. We concluded Synbio with a real-world example of producing rose-scented perfumes and shifted to the WHATs, WHYs, and HOWs of antimicrobial resistance.

For 9th - 10th students' Segment: After much brainstorming over the engagement of students, we decided to make a scenario of the year 2050, to make them realize the possible consequences of AMR. The students were then briefed on DARPA's successful and ongoing projects on living foundries and NASA's Curiosity Rover.

For 11th - 12th students' Segment: This segment was further divided into two (Medical students and Non-medical and Commerce students). The convergence of Synthetic biology with Machine learning is the new trend, so the focus was kept the same. The talk included the advancements of technology concerning the anatomy of the human body.

Assumption: After talking to some students of similar age groups in our locality, we considered that teenagers are fascinated by the new technological innovations and mind-boggling experiments.

2. Feedback from Stakeholders & Audience

Our stakeholders were excited about the event since the beginning. Therefore, the responses and feedback we got were exceptional. The School Principal and teachers acknowledged our efforts and felt ecstatic with the knowledge imparted through the webinar. According to them, everyone needed to understand the fundamentals of any foundations, focusing on the science of biology. The children's response was very encouraging, and they participated with a lot of enthusiasm. We talked about DNA, Proteins, Vaccines, Viruses, and even discussed various scientific innovations, especially with students of 11th and 12th. Students were willing to talk more about the session and career opportunities in the field of science. The interaction was pretty motivating for the students as well as for the team.

3. Learning from Audience Response:

After conducting the first webinars for all the four segments mentioned above, we observed that many students left the webinar towards the end. So, we worked on the pain-points for making our slides more audience-oriented and worked out some minute details. This helped us a lot in improving the response we got from the second webinar. The learning opportunity was pretty high as the team interacted with the audience in different languages as per their requirements.

4. Learning Outcome from Resource Booklet:

The purpose of circulating a Resource Booklet was to provide a handy yet interactive guide stating the crux of the matter discussed in the webinar. For the same reason, the resource booklet contained fun activities like crosswords, quick quizzes, DIY experiments, and many more along with the prevention tips for Health and Hygiene.

From designing the booklet to organizing the relevant content, we worked with full enthusiasm on every aspect, as kids are often attracted to good designs and tend to read them. We incorporated some links to YouTube videos as well because audio and visual graphics make it easier to learn efficiently. Learning about the level of dedication it takes for teachers to curate subject matter is what we discovered.