

MATHEMATICS & PROGRAMMING CLUBS



Breaking down Kalam through Socratic dialogue

CITY BUREAU
Hyderabad

Sciensation media firm organised a Socratic dialogue, 'Understanding APJ- Actuate and Proper a Journey', for students to discuss APJ Abdul Kalam's ideas and the role of youth and students, at Phoenix Arena Art and Cultural Space, Kondapur, on Saturday.

K Sriram, one of guests for the student's dialogue, said Kalam and Jawaharlal Nehru were popular among children as they were very few who had the courage to address children. "Older people sometimes may not react to the blunders in a speech whereas children do react, which makes it important to make sense while we address children. This is the reason why few people choose teaching profession," he said.

Vivek, visiting faculty of International Institute of Information Technology, Hyderabad spoke.

Students deliberate on APJ's ideologies

OUR BUREAU

As part of their effort towards promoting research-based learning in schools, city-based Sciensation organised a 'Socratic Dialogue' titled "Understanding APJ- Actuate and Proper a Journey" in the city recently.

The aim was to get students to discuss Dr APJ Abdul Kalam's ideas and the role of youth/students in realising that.

In this regard, Sriram Kari, moderator and one of the guests opened the discussion mentioning that only few leaders like Dr Kalam and Pandit Jawaharlal Nehru were popular among children. He urged them to be courageous.

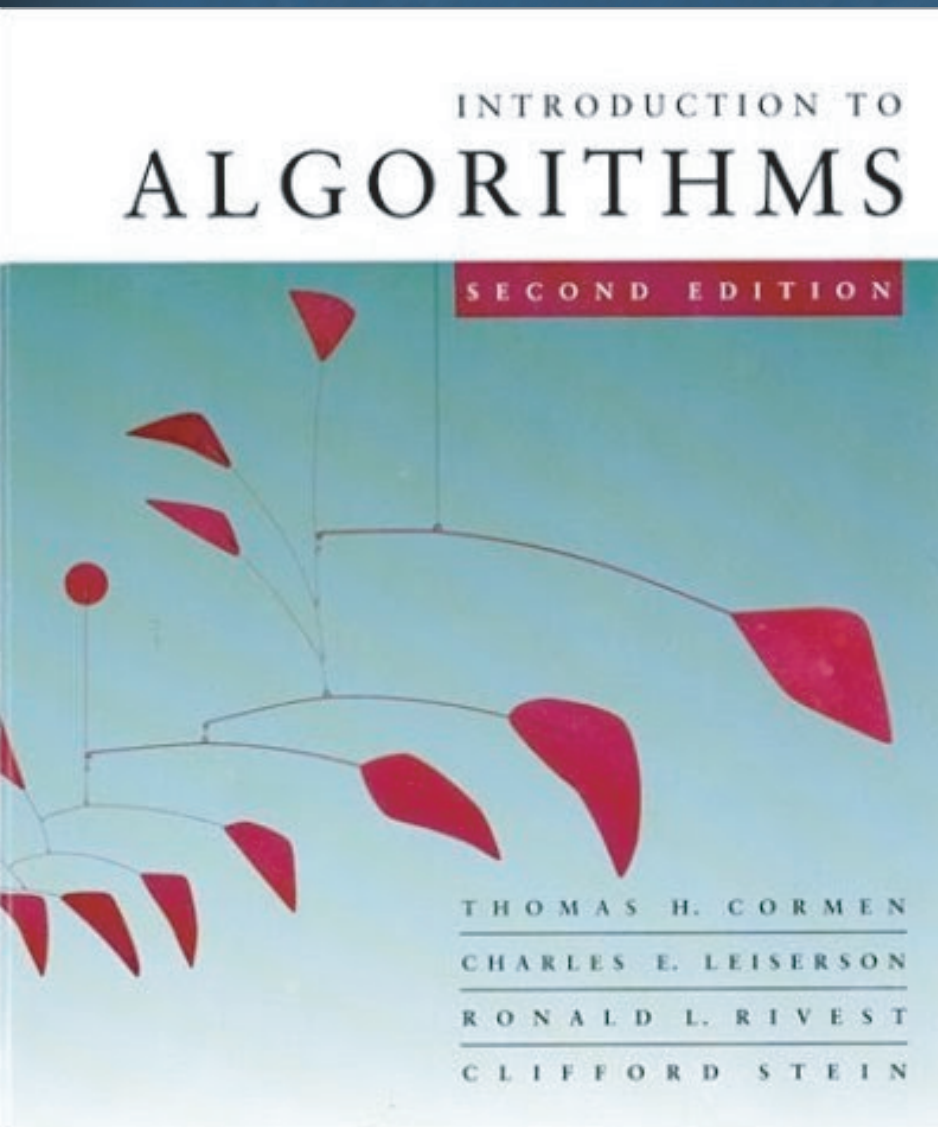
Dr Vivek, a visiting faculty of IIT Hyderabad and one of the guests had put the discussion into context, by saying that he had seen the country change a lot over the last 45 years. He said that students now have a great environment that helps them in knowing many things and that they now have a

chance to ask a lot of good questions. The event encouraged students to "ask questions" and be inspired. A dialogue between students and guests ensured they had a live session of the same.

One of the students said that Kalam's vision 2020 was inspired by a school student who told Kalam that her vision for the future was to see India as a developed country and that she felt that this could be the reason why Dr Abdul Kalam spent a lot of time with school students.

Later, CalculusKids, a team of school students of Sciensation Afterschool who explain Calculus using Feynman Technique, performed a skit using research-based learning methodology and had then connected their ideas with Dr Kalam's vision. They requested the students to think original and that it is okay to mistakes, they said that the message of their skit was to not memorise, but to understand what they learn.

Computer Science Curriculum



- Intro to Computer Science
- Data Structures
- Sorting Algorithms
- Greedy Algorithms
- Graph Algorithms
- Recursion
- Dynamic Programming

Several IT companies have been preferring Data Structures/ Algorithms based assessments to screen candidates on problem solving using programming.

- **Basics of Python**
- Conditionals
- Loops
- Functions
- Lists' and Strings' functions
- File Handling(optional)

We will focus more on computational thinking than programming.

Students can switch between languages through flow diagrams.

Students will code and solve previous years' ZCO/INOI problems.

International Olympiad in Informatics



 TEHRAN – IRAN
2017
PHOTO: MOHSEN AZADEH

- The olympics of programming, is patronized by UNESCO and IFIP

- World's 2nd largest Olympiad, after IMO.

-84 countries participated in IOI 2017

- IIIT Hyd, IIIT Delhi, CMI Chennai admit students based on ICO Scores.

First Level: ZCO/ZIO

ZCO(C, C++, Python or Java)
ZIO(Coding not required)

Second Level: INOI

126 students cleared ZIO2017 and 106 students cleared ZCO2017 for INOI2018

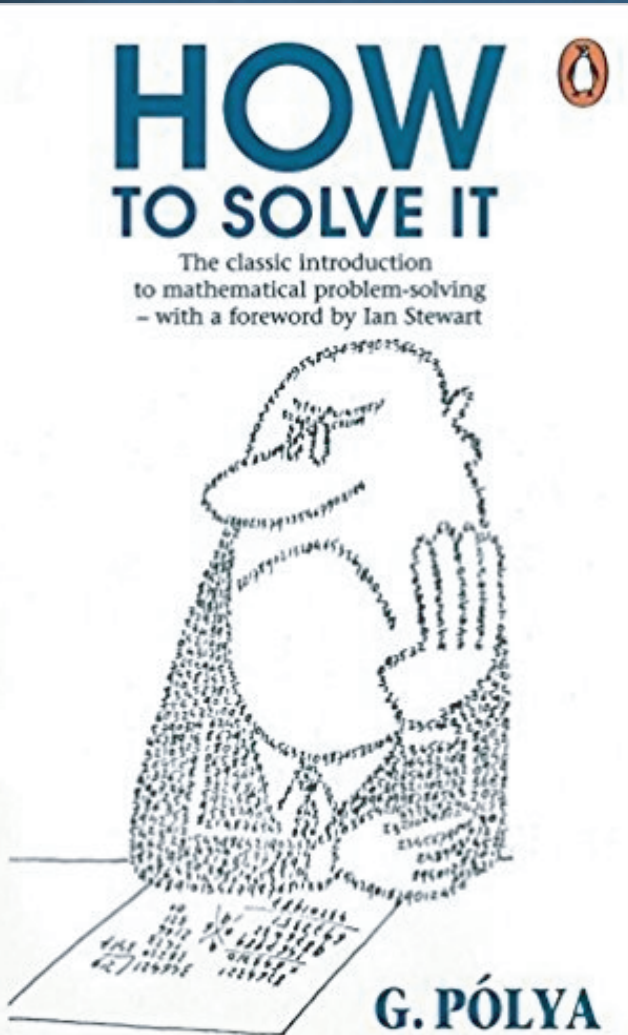
Third Level: IOITC

27 students were selected for IOITC 2018 through INOI2017

Fourth Level: IOI

4 students represent India at IOI

HEURISTICS



George Polya was one of the greatest Mathematics teachers and has catalogued several heuristics in his book "How to Solve It"

Sciensation teaches Mathematics/ Computer Science using Polya philosophy.

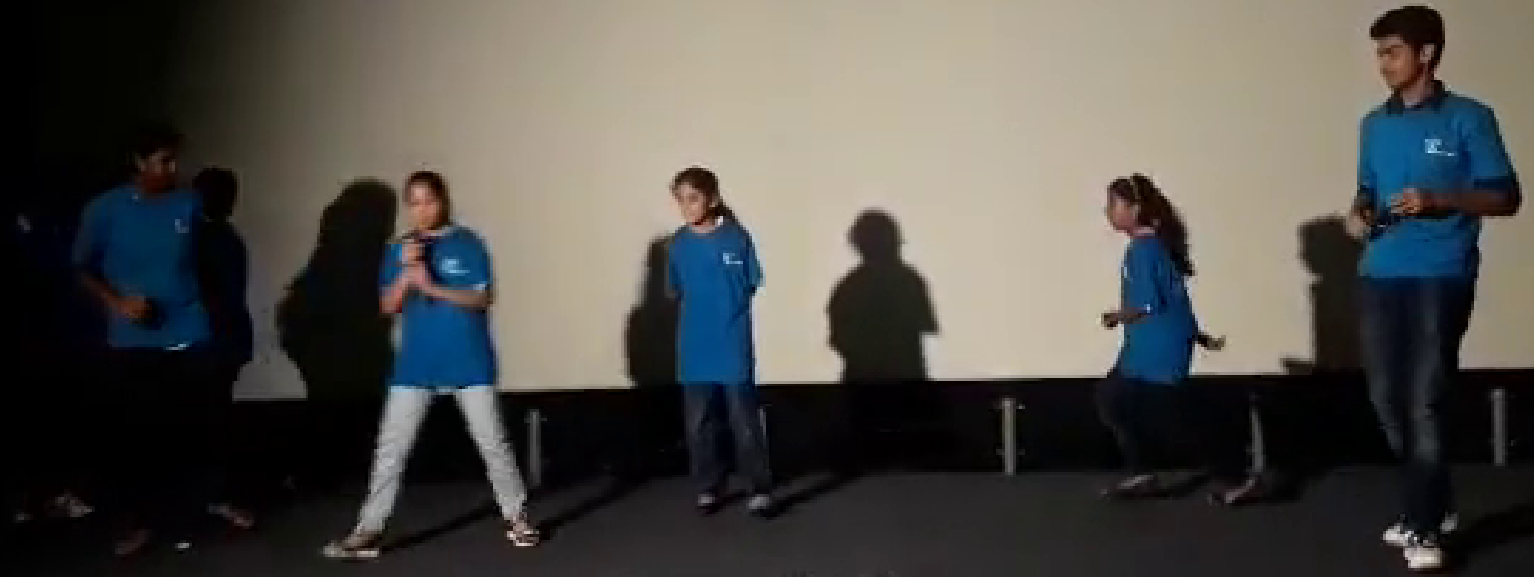
- Understand the problem
- Make a plan
- Implement the plan
- Learn from the experience

Students are given new heuristics for solving problems and verifying answers.

Heuristic: Take the shortest queue.
Doesn't always work, it's not an algorithm.



EXAM STRESSBUSTERS



Sciensation students (grade VI) used Feynman Technique to explain Differential Calculus and Algebraic Multiplication.

- Real world examples

(for instance Uber/astronomy examples for similar triangles)

- Feynman Technique

Similar Triangles were explained using an inflated balloon. Corresponding parts are called cousins.

- Writing all the required steps

Students are explained how proof writing/explaining steps is similar to movie script writing.

- Why Study Mathematics

Students who lose motivation to do math are told about Mathematician turned historian Prof Kosambi.

Why do this?

- Motivates students to do Math using Mathematics

- Prerequisite diagnosis to boost academic performance.

- Solves math anxiety. Sciensation makes student open up about the emotions which they experience while solving problems.

- Simplify concepts using Feynman Technique, boost confidence.

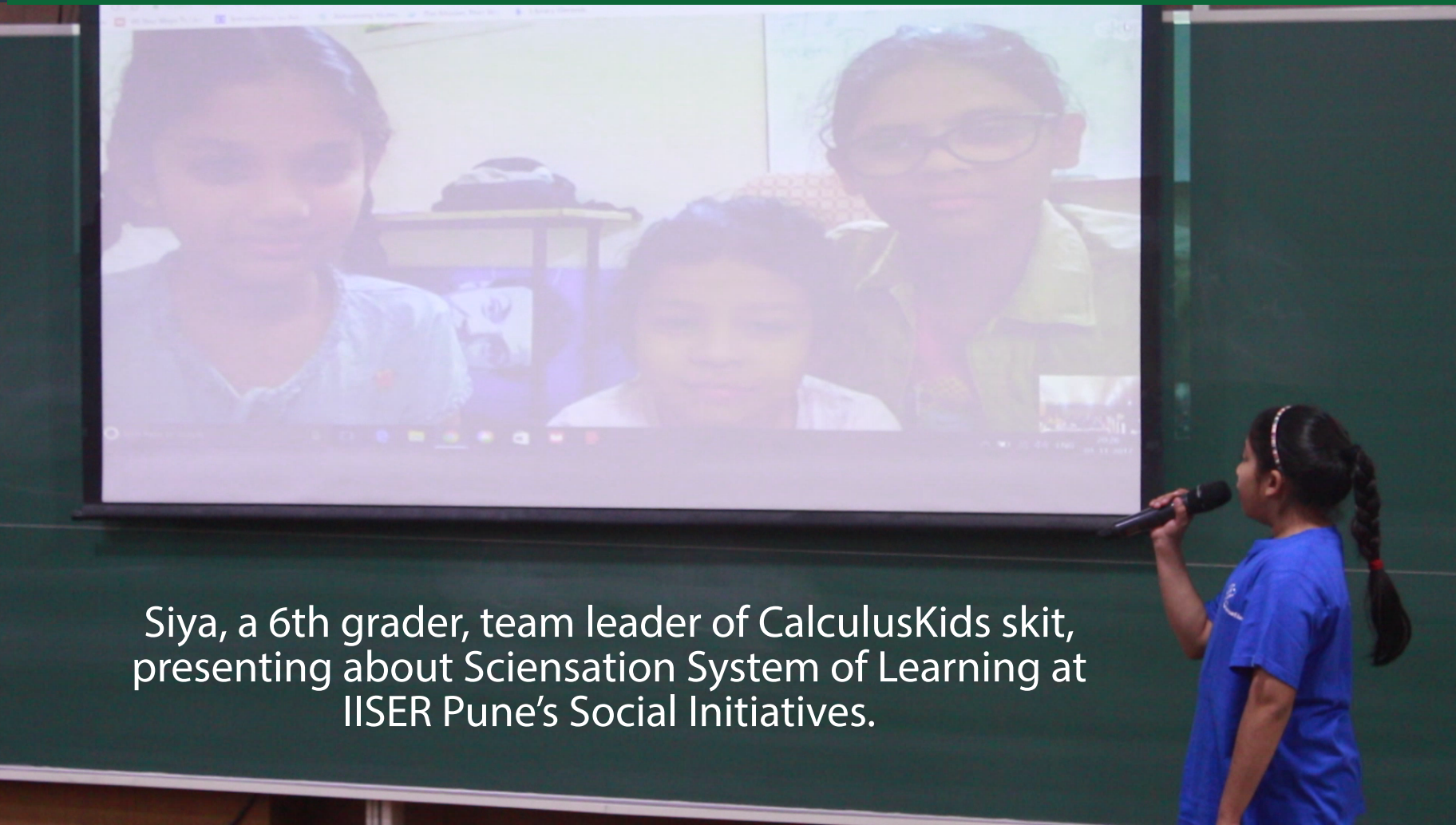
- Tips/Hacks on writing steps carefully and avoiding silly mistakes.

AFTERSCHOOL CLASSES

Locations: AS Rao Nagar, Bowenpally, Gachibowli ,Habsiguda, Kukatpally



Students pick up interest in Mathematics/Problem Solving during our After-School Classes and gear up for IITJEE/Olympiads and other challenges.



Siya, a 6th grader, team leader of CalculusKids skit, presenting about Sciansation System of Learning at IISER Pune's Social Initiatives.

TEACHER'S PROFILE: Mr Tarun, Founder, sciensation.tv



STRATEGY

MATHEMATICS

DESIGN THINKING

CRITICAL READING

CREATIVE WRITING

MEDIA PRODUCTION

EXPERIMENT DESIGN

BS, MS at IISER Pune,
Mathematics/Theoretical
Computer Science/Game Theory

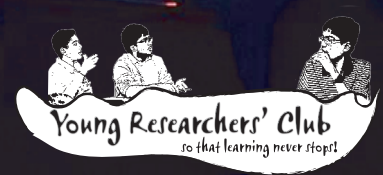
Undertook research projects at
IISER Pune, IIT Hyd, IISc Chennai

Started teaching at 16, Sciensation
at 19. Teacher Training at 25

DOUBLE OLYMPIAD MEDALIST
2nd position all over Maharashtra, 2010
5th position all over AP, 2006

CLEARED IITJEE/CAT (3754, 97.7%)
but chose IISER Pune/startup

Produced TV Shows/ competitions,
reaching 150+ schools (4 states)



MADHAPUR, NALLAGANDLA, POWENPALLY, An IISER alumni venture bringing



2017 SAMASHTI WANTS TO KNOW* YEAR IN REVIEW



2017 HACK YOUR MVP*17 LEAN STARTUP METHODOLOGY



2017 CONSTRUCT THE CONSTITUTION*17 SENTIA, BACHUPALLY



2017 EKALAVY*17 LEARNING BY QUESTIONING



2016 SCIENSATION BY DEMONETIZATION LFHS, UPPAL



2016 CBS EXTREMISTS* FUTURE OF EDUCATION 50+ SCHOOLS



2016 PERSPECTIVE IN LESSON PLANS MERIDIAN, MADHAPUR



2016 IDEA OF INDIA*16 SOCIAL SCIENCES MEDISAN BANJARA



2015 EKALAVY* BEHIND THE TRIANGLE GITANJALI, BENGUMPET



2015 SCIENSATION*5 ADVERTISING MANZHAN, TELLAPUR



2016 EKALAVY*16 QUESTION ASKING COMPETITION DAV, SAFILEGUDA



2016 GITANJALI REINVENTING DESIGN THINKING SUSTAINABLE SOCIETIES



2014 SCIENSATION*14 RESONANCE BOLTON, SEC'BAD



2013 SCIENSATION*13 EVOLUTION LFHS, ABDS



2012 SCIENSATION*12 BINARY SEARCH BSRKV, SAINIKPURI



2011 SCIENSATION*11 ERROR ANALYSIS EBL, NALLAKUNTA



The questions of the students are often the source of new research. They often ask profound questions that I've thought about at times and then given up on, so to speak, for a while. It wouldn't do me any harm to think about them again and see if I can go any further now. The students may not be able to see the thing I want to answer, or the subtleties I want to think about, but they remind me of a problem by asking questions in the neighborhood of that problem. It's not so easy to remind yourself of these things.

So I find that teaching and the students keep life going, and I would never accept any position in which somebody has invented a happy situation for me where I don't have to teach. Never.

-Richard P Feynman

HYDERABAD

‘Why should we remain silent in class?’



SPECIAL CORRESPONDENT

HYDERABAD , OCTOBER 08, 2017 22:57 IST

UPDATED: OCTOBER 09, 2017 07:39 IST



Film Director Shekhar Kammula with the students who debated on “Reforming Education” at the audio launch of the movie ‘Egise Tarajuvalu’ in Hyderabad on Sunday.

Students discuss 21st century pedagogy

‘Remain silent’ is the oft-repeated statement of some teachers in schools who get irritated on questions being raised by students in the class. And a 5th grade student raised this issue asking, “What is the purpose of sitting in the class if I am unable to raise questions and clarify the doubts?”