Dr. Amik Garg

ONLY FUTURISTIC EDUCATION CAN FILL CRACK WITH INDUSTRY

Emphasizing the need to groom students to become global citizens, **Dr. Amik Garg**, Director of the Krishna Institute of Engineering and Technology (KIET) Group, urges more collaborations with top foreign universities. A defense technology veteran, he tells **Education Post** about the massive academics-industry gap and how academia can fill it by implementing a futuristic approach.

In 2004, you had received a commendation from the government for innovation at the workplace. Tell us about that.

I was working at a defense establishment and we were dealing with small arms training simulators. The company in the US, from which we were about to procure thousand simulators, closed down after one year. So, the only way out to repair the simulators was through the cannibalization of sphere from one part to another.

But it was costing too much – one simulator used to cost around Rs. 1 crore at that time. So, we carried out reverse engineering and traced the circuit for faulty ICs in them and one IC of the simulator used to cost around Rs. 1 lakh.

We wrote numerous mails to people across the world who dealt in used hardware and we got reverts also. One person from Germany, said that he had so many ICs and he can offer it to us at just US $2 each. And we were able to bring around 200 simulators back to action along with a huge reduction in cost. We were able to bring down the cost from around Rs. 1 lakh to around Rs. 140. This was the work I got the award for in 2004.

Q You founded the Cleft India Parents Association. Would you shed some light on it?

Cleft lip is a congenital abnormality that many children are born with. Their lip is in two parts, either in the middle of the nose or one side of it. Children with the cleft deformities feel discriminated against. Their own schoolmates hardly talk to them, or they start suffering from an inferiority complex. It takes an emotional toll on the child and the parents too.

My son, Ashim, was born with a cleft and we were absolutely clueless about it. So, we didn't want other parents to go through the same hardship that we had faced. Information scarcity is one of the biggest plights for those parents whose child or children are born with cleft.

My son underwent a surgery which cured his cleft. He has now graduated in engineering from IIT Delhi.

I have come across lots of parents whose children have cleft deformity. We encourage those parents to educate other parents also.

Usually, a doctor will recommend a child with cleft to undergo corrective surgery at as young as three months old. But at that age the mouth doesn't open wide enough, making the surgery a tedious task. Students at KIET are trying to develop a device equipped with a camera and a light that could be placed inside the mouth to perform such surgeries in an efficient way.

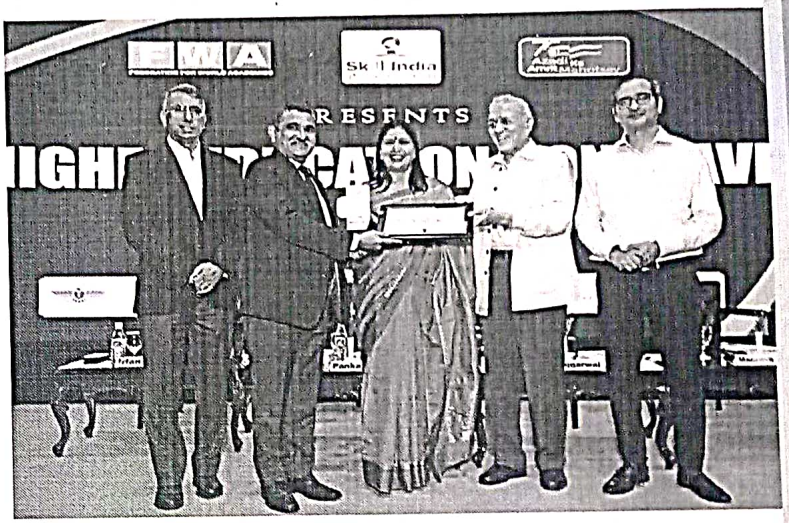
Q KIET group of institutions have incorporated some vocational studies as Computer Science in Machine Learning and AI and Masters in Pharmacology. Do these courses actually help in making students job-ready?

These courses have been very carefully designed. A term often talked about, "academia-industry gap". It basically means that the skills an industry expects from its employees are skills that were not imparted during the student's education. The most important reason for this is that teachers in India do not have industry experience.

Almost every industry has infused Artificial Intelligence (AI) and Machine Learning (ML) in its practice. The magnitude of the infusion could vary from minor to major. It is not possible that every student of computer science, studies only ML or AI. So, we have created a course of basics of AI and ML that runs in the evening or only during vacations.

Students enroll in these vocational courses and study the basic, moderate or advanced level of the course depending upon their choice or need. As of now, more than 250 students have enrolled for these specialized courses at our campus.

At KIET, we focus on teaching three languages to every student: The mother tongue, English and a third, which is a programming language. Largely due to this, 94 percent of our CSE students, who will pass out this year, have received offers of an average of Rs. 20 lakh per annum.



Q What provisions of the National Education Policy (NEP) do you find interesting?

Though the whole policy has meticulously been drafted but I found two policies very interesting. One provision I like is, multiple entry and multiple exit. In my own institute, there are many students whose family income is less than Rs. 2.5 per annum. Sometimes these students struggle to pay college fees. For them, this policy can give some relief. They can study for a year or two, work to earn and can join back after sometime.

Academic Bank of Credits (ABC) is a good provision. Suppose, you studied for one year and earned some credits which go to your ABC. You can utilize those credits to join the same course in any other institution.

Another provision I found an interesting is the internationalization of the education. An International Relations department has been made mandatory in all academic institutions. With this provision, influx of students from other countries might increase. Right now, around 50,000 foreign students come to India for studies and most of them are South Asian. Besides, more students from India could also be sent abroad on collaborative or student exchange programs. At KIET, we are actively focusing on international internships. A student should go out of the institution and do internships abroad for enhanced exposure.

Q The "Proud Parent Award" is something we read about on your institute's website? What is that about?

At KIET, we have a Technology Business Incubator (TBI) department, which is supported by

the Department of Science and Technology with quite a successful rate.

And let's face it, India needs more job providers than job seekers. So, if any of our student gets a noble idea that could later be turned into a potential start-up and the government recognizes it, we call the parents at the convocation ceremony to recognize their efforts as well.

Q How do you plan to make students more industry-ready?

In addition to the programming language learning provision at KIET, we give some realistic projects to the students. In engineering, students are supposed to do internships and a project in their final semester. After each internship, students are supposed to make a project based on the internships.

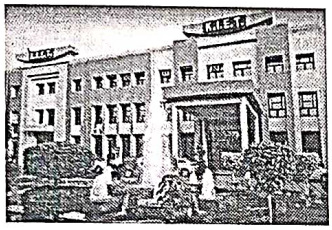
Back in the day, what usually happened was that one gets a reference from a known person and got a certificate in the name of internship. No knowledge was exchanged. But now we are adding value to the whole process. We want students to involve themselves in the industry, find out their problems and then provide solutions, if possible.

We have also created an 'Unnat Bharat Abhiyaan' cell. There are 40 students in this department who will visit and work in five adopted villages close to our institutions. Issues and problems may vary from gap in digital literacy or technological intervention or automatic switching on/off of the lights etc. So, during the placements, if the students describe about how they solved problems at the grassroot level, it portrays their forte to work.

We also educate students about research at the undergraduate level and the students must refer and read at least ten research papers. If students talk about their research papers during placements, the interviewer takes cognizance of it.

Q The CSE department of KIET has signed a Memorandum of Understanding with NCCU, Taiwan.

The biggest strength of an academic



institution is human resource. We are going to have student exchange programs. Fortunately, covid19 has taught all of us to switch over to the online mode of learning. So, this learning can be utilized very effectively via lectures, presentations and other forms of academic collaborations.

Now, as for this MoU, we will have joint publications and internships, online training, joint research and other academic activities. I am looking towards making KIET students global citizens. Following this MoU, students from NCCU, Taiwan, might study in our campus, and our students might go to Taiwan for any intellectual exchange.

We are also trying to become a proper university in times to come and reaching out to top universities of the world for more collaboration — that they adopt KIET as their satellite institute in India. The whole idea is to imply the best available practice in the whole world.

Q Any message for the Indian students and scholars?

My advice would be first to explore lots of available opportunities and facilities. Lots of curricular and extracurricular activities are available. Students should explore them. They must try to explore every department of their institute because the institute and its administration also feel happy when they get interactive students.

Try to find your strength and go for it. It's not necessary that you have graduated in engineering or medical, then you make your career only in that relevant stream. Till the 12th standard, many students are not aware of what they want to do, but your college gives you that clarity. Explore it.