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## ***Pakodas* sans dripping oil? Time to innovate**

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In a month's time, it will start raining. Many of us will then relish *pakodas* with a cup of steaming tea in the moist evening.

Can we then wish to have *pakodas* without oil sticking to them, conscious as we all are nowadays about cholesterol and excessive oil? Is there a household device which will remove the oil from the hot *pakodas*? How about designing such a device and have in return a visit to USA. Well, incentives matter, and non-material incentives matter even more.

An exposure to good labs and technical centres around the world can be a good driver for creative efforts by students. Dr Sudhir Jain and his team at IIT Gandhinagar have mobilised the creative potential of undergraduate students in a manner that many institutes may not yet have realised. He has invited experts to throw challenges at the students, no matter, of which year. And the result has been quite astounding.

Underwriters lab, a non-profit organization, was set up in Chicago more than hundred years ago to study and develop guidelines for fire safety. They threw two technical challenges which are being faced in India as well. Almost half the batch responded to these challenges. When two teams of eight members were shortlisted, the fire officers from Delhi, Maharashtra and Ahmedabad were invited to evaluate the solutions. The team was invited to visit Fire Academy in Delhi and also the lab in Chicago. One team comprised only first year students. After the popularisation of solar panels, it has been recently realised that in the unlikely event of fire in the solar panels, fire tenders would not know what to do because no manuals or guidelines have been developed yet. This challenge was also thrown at the students for which of course solar systems were required for various kinds of testing. GEDA obliged with the infrastructure. Several other well-wishers joined hands and the projects started. Incentive will be international exposure to the students.

One can multiply these examples manifold. But it is obvious that ability of young minds to solve technical problems has been grossly underexploited in our country. The experience of Ignite awards of NIF for school children and technology students under Techpedia.in illustrates the concept very well. And yet we should ask ourselves how many examples we have of such problems having been solved by first or second year undergraduate students around the country.

Another issue which is linked to harnessing of the potential of students is about engaging them in large-scale social problems all around our campuses. Dr Jain has, at present, IIT running in the premises of Vishwakarma Engineering College and there is a school run by a famous educationist in the neighbourhood.

Heads of the three institutes met and asked each other whether they could be of greater help to each other. Mr Sharma, principal of the school, mentioned that many girls did not take up science because they could not get coaching, unlike boys in whom parents invested a bit more liberally. On Saturday, the female students of IIT go to school to teach girls and on Sunday, the school girls come to IIT to learn. If each institute of excellence could take up one municipal or government school in their neighbourhood, there would be a lot happening, motivating all involved in the process. If such lessons are recorded, then another quest of ours will also get fulfilled. We will soon be able to have a large database of open source educational content in different languages and formats. Summer of 2012 is a time for taking new initiatives for inclusive education without which we will never have inclusive development in our country. Should not each bright student aim to develop at least one lesson for school children? Should we not challenge undergraduate technology students to also address real life problems of our society? Should not third year technology students undertake industrial learning exercise in summer to benchmark the problems of Micro, Small and Medium Enterprises for taking these up as their final year project? The youth is waiting to be challenged; we just have to shed our myopia and hesitation.

*The author is a professor*

*at IIMA. He can be reached at [anilgb@gmail.com](mailto:anilgb@gmail.com)*

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