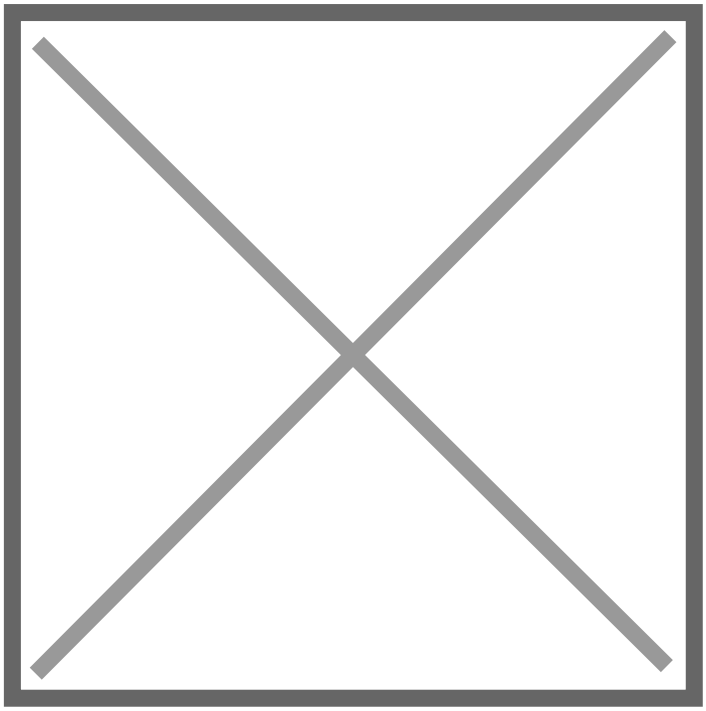
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Is GenX Ready for Biotechnology?

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So, what does the industry want from biotech colleges and universities? HR heads get candid

Is GenX Ready for Biotechnology?

The GenX is a difficult lot, claim most industry experts and HR heads. Ã¢â?¬Å?Apart from lack of expertise, students today have unrealistic expectations like high salary packagesÂ plus most of them do not have much stability. We make huge investments in terms of time and money in training these new joinees butÂ they leave the company once they get a footholdÂ in the industry,Ã¢â?¬? says an industry expert. His views are echoed by many.Â Attrition in the life sciences industry at present stands at 25 percentÂ and is expected to shoot up. Above all, HR heads are candid about the fact that biotech colleges and universities do not train students for a career in the corporate world of life sciences but merely feed them with theoretical knowledge. Students whoÂ do not wish to be named in reality agreed.

Criteria For Selection

Academic knowledge and intelligence in the specific field, is the obvious priority for most companies going in for campus placements. Ã¢â?¬Å?We check the background of the student in its entirety which includes not just academic performance in collegeÂ but also his performance in school. Moreover, a student is testedÂ not just on his scientific knowledge of the field but also on social skills like his aptitude, capabilities and attitude towards his work and colleagues,Ã¢â?¬? said VT Gopinath, head of the HR department, Actis Biologics.Â The Mumbai-based company conducts a 'Capability-based Interview', wherein students are assessed according to their capabilities in terms of knowledge in their respective fields, their capability to handle a research project, their capability to adjust in a team and also on their interpersonal skills. Ã¢â?¬Å?A student might be intelligent but he may be lagging behind in interpersonal skills. So we also look intoÂ theseÂ skills, discipline, whether he will be a responsible candidate, whether he can mingle with his colleagues as research involves mingling and sharing of knowledge with your team members,Ã¢â?¬? adds Gopinath. Gujarat-based Intas Biopharmaceuticals, also goes the same route wherein apart from the basic knowledge, students should be clear in the theoretical concepts related to biotechnology. Ã¢â?¬Å?Usually, we hire students who have completed BSc, MSc, MTech and MPharm from reputed universities. Based on personal interviews, written tests and soft skills, students are reviewed for selection. If there are some areas of concern, then we evaluate and attempt to address them through interaction, after which they may orÂ may not be selected for the job,Ã¢â?¬? informs Dr Kashmira Pagdiwalla, director (HR operations), Intas Biopharmaceuticals.

Reliance Life Sciences (RLS) provides students with an opportunity to become a part of the organization onÂ completion of the competency development programs conducted by Reliance Institute of Life Sciences, a not-for-profit institution.Â Ã¢â?¬Å?This is with the objective of training fresh graduates and post graduates in specific fields of science and technology in order to support the talent requirement of Reliance Life Sciences and the biotechnology industry at large,Ã¢â?¬? said K V Subramaniam, president of RLS.

During the time of admission, students have to go through rigorous screening process which comprises online test followed by interviews. These programs consist of three months of classroom training and nine months of hands-on-training. Dito with companies like Biocon and Imperial Life Sciences which houses similar institutes.Â Such companies mainly take in students

from these in-house institutes (though for some departments they look out for candidates applying from other sources).
Â Â Roche Diagnostics, which is a recent entry into the Indian market will be looking at universities for talent recruitment. Ã¢â?¬Å?At our global office, Roche does recruit students from universities but in India, we're looking at the number of biotech colleges mushrooming across the country. We'll be hiring candidates from these colleges soon. We are always on the look out for youngsters who are toppers but then, they are put through several rounds of interviews,Ã¢â?¬? informs Dr Bhuwnesh Agarwal, chairman and managing director, Roche Diagnostics India.

Are Industry Needs Being Met?
The answer to this question is a yes and no. Says VT Gopinath, HR, Actis Biologics, Ã¢â?¬Å?Biotechnology in India is in its nascent stage and many biotech colleges and universities yet do not have a grip of the industry. Founders of private-run institutes are mainly entrepreneurs who do not have much experience and background of biotechnology. Moreover, most of these institutes are run like business organizations rather than an academic institution. The sole motive it appears is to merely churn out profits and revenues.Ã¢â?¬?Ã Â
Industry experts point out that several biotech colleges, do not give much emphasis on quality education and practical training. Ã¢â?¬Å?A large number of universities and institutions have, over the last few years, introduced several programs in the biotechnology and pharmaceutical domains to meet the growing talent requirements of the pharma and biotech industry. However, the curriculum could do better on practical exposure,Ã¢â?¬? said Subramaniam.
Agrees Dr Agarwal, Ã¢â?¬Å?I believe that biotech students in India are extremely intelligent, creativeÂ and hardworking. It's just that they need grooming in having hands-on experience in the latest and emerging technologies.Â Unlike foreign universities, education system in India is such that students are not encouraged to think freely, the syllabus is old and not updated.Ã¢â?¬?
In addition to this, the quality of research projects undertaken by biotech institutes need to be worked upon. Ã¢â?¬Å?Universities andÂ colleges should focus on country's needs. At present, it's like malaria, dengue which is the focus of the industry,Ã¢â?¬? says Gopinath adding Ã¢â?¬Å?at the end of the day, the industry needs students who are well tuned to the present day market demands and dynamics, however, here we have a case of students taking up research projects which have no relevance to the present day market scenarioÃ¢â?¬?.
Ã¢â?¬Å?Universities in India are not up-to date with global and market realities. Also, their assessment and education delivery processes standards are not in line with those of the West. Their syllabi need to be updated, revised and so also the assessment systems. New streams, like preclinical and clinical research, pharmacogenomics and other such emerging subjects need to be offered by these institutions. We need to start giving focus on the research part of the R& D so as to enable budding scientists to develop a research mindset,Ã¢â?¬? says Thomas Putti, president, National HR Life Science Forum and Head, HR with Advinus Therapeutics.
Ã¢â?¬Å?Technical curriculum surely prepares them to become domain experts but corporate knowhow in the form of professional coaching is missing from the course content, teaching formats in colleges and universities,Ã¢â?¬? says Anshula Verma, staffing head, Agilent Technologies.
Infrastructure is another major problem most educational institutes face. Says Putti,Ã¢â?¬?Candidates today come with a mindset of 'what is in it for me' rather than what they can contribute to the organization. The demand-supply equation for talent and niche skills is exploited by candidates to a large extent, putting internal parity and equity in the organization under stress. Ã¢â?¬Å?From the technology front, experts are dissatisfied with the quality of the students being churned out. In such a situation, companies have no other option but to recruit the 'best out of the mediocre' and then subsequently invest heavily in training.Ã¢â?¬?
Beckman Coulter India which has its base in Mumbai since the past two years, has zeroed in 2009 as the year for its high-end flow cytometry products wherein many product launches are in the pipeline for this year. However, this has its own share of challenges. Says Dr Chandrasekhar SP, MD, Beckman Coulter India, Ã¢â?¬Å?Flow Cytometry is a technology which is taught in limited institutions. Even if is taught, very few people get hands-on experience to play around with this technology.Ã¢â?¬? There are workshops conducted to educateÂ and train people for flow cytometry but these workshops, industry stalwarts opine Ã¢â?¬Å?hold no waterÃ¢â?¬?.
The diagnostic industry for example, has failed to attract within its fold, a sizable amount of skilled manpower.Â Ã¢â?¬Å?Today, any person can open up a laboratory. All you need is a diploma degree. There are no courses for the field and this is coupled with absence ofÂ any regulatory authority. It is but possible that the lab technician you commonly see, does notÂ have any knowledge on the high-end lab equipments used in his own laboratory,Ã¢â?¬? said an expert under the condition of anonymity. Due to the paucity of skilled manpower, an expert told BioSpectrum, that in some cases doctors dictate reports to the lab technicians! Ã¢â?¬Å?Universities and colleges are aligned to the needs of the industry to a great extent, but they need to give students exposure and insights of selling of diagnostic equipments,Ã¢â?¬? said Anil Dhale, vice-president, Human Resources, Transasia Bio-Medicals Ltd.
Moreover, the kind of training given to the students is basic, subsequently putting the pressure on companies to come up with elaborate training and competency programs conducted at regular intervals. The gestation period for a candidate to become productive is long. And there's also the risk of leaving the company due to the availability of several opportunities in the market. Ã¢â?¬Å?Students ultimately lack focus andÂ have little knowledge of their field,Ã¢â?¬? adds Gopinath.Â Â Â Â Â Â Â Â

However, there's also a positive side to the picture. There are some who believe that there is no dearth of talent in the industry.Â A well-known Indian CRO who doesn't want to be named, had set up a training center last year only to shelve out plans and dissolve it this year.

Ã¢â?¬Å?We realized that we do not need such an institute. If our recruits need training, we go ahead with in-house training activities,Ã¢â?¬? claimed a top-level expert from the same company. Universities and institutes are nowÂ trying to get aligned to the needs of biotech companies. Ã¢â?¬Å?We have received a lot of enquiries from colleges for suggesting changes in course curriculum, and from our end, we have suggested those. However, universities have to go a long way towards updating their respective curriculum as per the requirements of the industry,Ã¢â?¬? said Dr Pagdiwalla.Â Â Â

Collaboration Is The SolutionÂ

The unanimous solution pointed out by the industry, would be that the industry and academia joining hands for a better education system. Ã¢â?¬Å?ThereÂ should be an industry-academia nexus wherein the industry should have an active participation when it comes to planning curriculum and methods of evaluation,Ã¢â?¬? says Gopinath. He maintained that in the process, students will get a lucid picture ofÂ the needs, demands, the latest trends, market logistics and cutting-edge technology in the industry. Says Dr Agarwal, Ã¢â?¬Å?There is very little interaction between the industry and the academia. I would suggest that universities and colleges shouldÂ invite experts from the industry who can give lectures on applicationsÂ of biotech in the industry.Ã¢â?¬?Â

Ã¢â?¬Å?In the final semester, they should be given electives to choose depending on their interest and accordingly, they may be placed in related industries for learning and upgradation of knowledge relevant to their interest,Ã¢â?¬? claims Dhale.

Experts point out that in terms of evaluation, students should be tested on problems of applications and study of real life cases, which are likely to crop up in their profession. Ã¢â?¬Å?A lot of questions given to students are based on theories which will help them only to a certain extent in their job careers,Ã¢â?¬? said Dr Agarwal. But Putti offers a different suggestion altogether. Ã¢â?¬Å?Biotechnology as a course should not be offered to students at an undergraduate level. It should only be offered at a postgraduate level and above. The course delivery has to be research and project based in addition to imparting information through textbooks and classroom lectures. The basics however, need to be imparted as fundamentals at the graduate level as basic biology courses,Ã¢â?¬? he says. This is coupled with faculty members handpicked and chosen carefully.

This apart, many universities and colleges are reeling under paucity of funds. Ã¢â?¬Å?Government should appoint an expert committee that has a time-bound assignment for giving concrete suggestions to upgrade the syllabus in order to align it better for industry requirements. Biotech work is highly cost-intensive. Most institutes do not have enough money to spend on improving quality of education and infrastructure. Improvement is required in terms of upgrading the quality of teachers, giving them good pay packages,Ã¢â?¬? says Dr Pagdiwalla.

Gopinath gives an interesting suggestion. Ã¢â?¬Å?I would suggest that there should be a Central Board of Control which will consist of members from the government, educational institutions and top industry leaders. Top industry leaders shouldÂ include CSOs and R&D heads of companies. They should sit together and thenÂ chalk out strategies, a practical curriculum and areas where students need to be trained.Ã¢â?¬?

The focus should be on identifying growth areas spanning for the next five years within the domain of the biotechnology industry and develop a course curriculum that would cater to the talent requirements of these areas. Ã¢â?¬Å?Some of these areas are in genomics, molecular medicine and regenerative medicine. Industry academia partnerships could also help close the gaps that exist in the system. Faculty should be encouraged to participate in globally competitive research programs that will help them benchmark their research projects with work being done globally. Significant infrastructure enhancements would need to be carried out by universities and the government could explore ways to help universities by helping fund these activities,Ã¢â?¬? adds Subramaniam.Â

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