

## A Ph D may not be enough

A Ph D degree is considered as one of the highest degrees in any academic discipline. Acquiring a Ph D degree needs enormous amount of time and effort. However, with a large number of students obtaining Ph D degrees each year, the scenario can be challenging as far as employability is concerned.

As the number of public and private funded academic institutions is not expected to increase drastically, employment opportunities in such organizations will remain steady in the coming years. In such cases, students will have to look for employment opportunities outside the academia, i.e. in industries. However, a Ph D degree may not be sufficient for getting oneself employable in a industry. A person with a Ph D degree may be good at conducting research, report writing and other such activities, etc. but these are not the only qualities

that industries look for. Industrial firms often do not hire PhDs assuming that experience of working in academia will be a burden<sup>1</sup>; they prefer an M Sc or even a graduate to a Ph D degree holder.

As evident from the 'employment–unemployment report' of the Labour Bureau, Government of India<sup>2</sup>, the unemployment rate increases with increase in education. Now considering the increase in the number of students with Ph D degrees in the coming years, generation of employment and managing the large highly qualified human resource will certainly be an issue of concern.

Therefore, students pursuing Ph D need to understand the fact that a Ph D may not be enough for employability and prior preparation and training for transforming the academic capabilities to cater to the needs of industry as well as

academia will be key to better employability in the coming days.

1. [http://sciencecareers.sciencemag.org/career-magazine/previous-issues/articles/2014\\_10\\_14/caredit.a1400253](http://sciencecareers.sciencemag.org/career-magazine/previous-issues/articles/2014_10_14/caredit.a1400253) (accessed on 24 October 2014).
2. Labour Bureau, Second Annual Report on Employment Unemployment Survey 2011–2012. Labour Bureau, Department of Labour and Employment, Government of India, Chandigarh, 2012.

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## Why is 'dissection' such a dirty word?

Tertiary education in animal sciences in all the colleges and universities has taken a merciless beating since the arbitrary dictate of UGC to ban the dissection of laboratory animals. This is a mandatory directive that prevents the use of animals, irrespective of their abundance, phylogenetic position or ecological relevance. This means that a teacher may be punished for using a cockroach, housefly or mosquito as an animal model for giving hands on training to young students of biology. The implementation of this skewed policy will have grave consequences, some of which are already being felt.

One of the most powerful arguments being advanced is that a range of animals would go extinct simply because they are being used by the school and college students. As common sense would reveal, this over-arching argument is laden with fallacy. While the use of animals from the wild (e.g. frogs) must be banned, what is the rationale for not allowing rats/mice to be used for dissection in biology labs? These rodents are prolific multipliers, can be readily bred in-house, and are of little consequence to the envi-

ronment. Most importantly, they provide some of the best used models for research across the world and we need a large volume of manpower trained on the handling and use of these animals. Particularly, with the great strides India has taken in the pharmaceutical industry in the last few decades, trained manpower to screen drugs on animals is the need of the hour.

Prevention of cruelty is touted as yet another reason. Although the argument has a humane dimension, its piousness is shrouded in hypocrisy. If we take a broader view, the paradox becomes apparent. A visit to the slaughter house or poultry farm would reveal the immense cruelty being inflicted on our livestock. This is not to justify the cruelty to animals in the laboratory or elsewhere. But the point is that with trained personnel working under strict CPCSEA norms, we should be able to address the concerns and ensure due care. To draw an analogy, if chicken and goats can be raised to feed the masses, why not have in-house bred rodents to give proper education to our students?

Third, as an alternative to the use of animals, the UGC recommends application of simulation videos. This argument holds no water. Imagine a scenario in which a student gets a Master's degree in zoology without even touching a rat. He/she then tries to find a job in a pharmaceutical company that employs rats/mice for screening potential agents with cardiovascular or anticancer properties. What are the chances that he/she will be hired? What is the use of his/her degree, if he/she cannot manage even a small animal house? Let us not confuse the issues. Videos are no substitute to the real-life situations. If a student needs surgical skills to cannulate the carotid or jugular in a rat, or withdraw blood from the tail vein, he/she must practice on live animal models. Let us take another example. In a range of university postgraduate departments across the country, fish and fisheries is offered as a special subject. In this course, the students learn the use of 'spawning inducing agents' on live fish to promote the yield of major carps – the mainstay of our freshwater aquaculture economy. The current policy does

not permit laboratory experiments, and if there are no formally trained personnel, quacks will flourish. There is enormous job potential for the trained fishery scientist. We can only imagine the huge damage we are inflicting upon ourselves by depriving our students of this hands-on training.

The proponents of the ban also posit that in all the Western universities the use of animals for education at graduate level has been prohibited. The facts are quite to the contrary. The use of rodents, albeit under strict conditions, is permitted in most Western universities.

Finally, it is often argued that the number of drugs that have been discovered, based on research done on rodents, is woefully small. True. But, this is not

because mice/rats are inadequate to provide the answers, but because of the innate complexity of biological phenomena. In fact, if we want more drugs to reach the clinical trials, we need to expand the research base on rodents, and not reduce it. We can be sure that behind every drug in the market, pre-clinical studies drawn from rodents have contributed a lion's share. On the other hand, we can also be certain that no drug will ever be discovered by studies confined to computer simulations.

It is ironical that while UGC permits the use of animals in research, it is banned in education. Indeed, education paves the way to research and creativity. The negative consequences of the ill-conceived ban on dissections by UGC

are already being felt. Ask any biology teacher across the country and he/she will tell you about the erosion in the quality of education since the blanket ban on dissections. Good students would rather avoid zoology at the Bachelor's or Master's level, and seek other options. The decision to ban dissections is shortsighted, counter-productive and damaging to the higher education in basic sciences in India. There is an urgent need to rid the education system of this self-damaging practice.

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## Non-professionals in-charge of libraries

Library and information science (LIS) education in India is a 20th century phenomenon. The purpose of such education is to produce competent and capable professionals who are able to manage the libraries effectively and efficiently. Library and information science education is offered at various levels, such as certificate course, diploma course, one-year bachelor's programme (BLISc), one-year Master's programme (MLISc), two years integrated MLISc programme, MPhil and Ph D. There are 146 library schools recognized by UGC, out of which around 120 departments offer Bachelor's degree, 78 offer Master's degree, 16 offer MPhil degree, 63 offer Ph D degree and 27 offer LIS courses through correspondence or distance education<sup>1</sup>.

With the changes that occurred in the information and communication technology (ICT) sector, which had a direct impact on the libraries, UGC constituted a committee under the chairmanship of C. R. Karisiddappa. The committee discussed all aspects of the curriculum and fully proposed modular syllabi for library and information science professionals for Indian universities. The report of this committee was published in 2001, which emphasized on systematic education for library professionals so that they can handle the libraries efficiently and effectively. Besides the regular post-

graduation (MLISc) and Ph D degrees in library and information science being provided by universities, the Documentation Research and Training Centre (DRTC), Bengaluru and National Institute of Science Communication and Information Resources (NISCAIR), New Delhi – the two premier institutions in the country are also providing specialized training in documentation and information science. They have updated their curriculum regularly, keeping in tune with the changing times.

Due to the efforts of S. R. Ranganathan (1892–1972), who spearheaded the library movement in India and is regarded as the father of library science in the country, library professionals in educational institutions are enjoying academic status at par with university teachers. UGC has fixed pay scales for librarians at par with teaching faculty in the universities. According to the UGC rules, pay scales of Assistant Librarian, Deputy Librarian and Librarian are equal to Assistant Professor, Associate Professor and Professor respectively. While there is a general appreciation that library services in the country should be on par with those in the Western countries, in many institutions, management of library and documentation centre is not left to qualified staff. It is unfortunate that since the last few years, there is encroachment

in the field of library services by persons from other fields. It is observed that in many academic and scientific institutions, the several posts for library staff are vacant. Heads of institutions are not taking any interest in filling up of these vacant posts, which are being occupied by persons from other fields. This practice can be seen in universities, autonomous bodies, and scientific and research organizations. It has led to degradation and deterioration of library and documentation services on the one hand, and to demoralization of library personnel on the other. There is an urgent need to stop this trend and promote library services by qualified librarians, rather than by non-professionals. Besides having a library committee and its Chair-Person to supervise and guide the library services, is there any relevance for non-professionals to be in-charge of libraries?

1. Sharma, J., *DESIDOC J. Libr. Inf. Technol.*, 2010, **30**(5), p. 2.

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