

Alternative model of doctoral research based on the concept of cumulative intelligence

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Growth of advanced research in India, in spite of various efforts by the government, appears to have stagnated. It can be argued that existing research institutions and programmes are finding difficulty in attracting good students in sufficient numbers. Various reasons can be counted for this. One reason is the lack of an encouraging research environment, which necessarily includes reasonably good incentives for researchers and professional monitoring of their research progress. It can be safely said that out of these two necessary components of any research environment, lack of professional monitoring of research remains the least discussed; however its importance cannot be underestimated.

The objective of this note is to draw attention towards the all-pervasive lack of professional monitoring in research institutions and point out problems faced by researchers and consequently the negative impact on their output. The PhD programme is a crucial step in the academic carrier of a researcher and in India, it contributes in a major way to the total research output. The relationship between a supervisor and researcher is not guided by any defining and governing principles and rules. Even if it exists somewhere in ordinances, bylaws, rules and regulations, this relationship is hardly governed in practice. In fact, the picture of this relationship that emerges is not a democratic one. As a result, in many cases supervision becomes simply dictation. In such cases, research is susceptible to be influenced by a supervisor's own bias resulting from various academic and extra-academic sources. It is not simply a question of freedom of expression, but also of compromise with the quality of research. Undue compromise is detrimental to balanced and cutting-edge conclusions.

There are also recurring reports of unprofessional treatment and exploitation of PhD students by their supervisors¹. In some cases, the microenvironment of researcher-supervisor interaction is so unfavourable to freedom of expression that a criticism or an alternative view from the student is perceived as disrespect and defiance. Doing domestic work for a guide

is not uncommon in regional universities¹. In such a situation, students should not be left to the supervisors' personal wisdom. Even in the Western world where the social norms² (morality and basis of favours) are uniform and confirm to the law of the land (in its spirit), they are learning to democratize research. Objective professionalism on the basis of a democratic spirit is imperative in India. Owing to the lack of objective professionalism, enforced by law, the behaviour of people who are in a supervisory role may change under the influence of diverse paradigms like astrology, caste system, communalism, etc. The situation becomes adverse for female researchers, if the research environment is not gender-sensitive.

An alternative model for conducting a PhD programme can be similar to the MSc or BSc programme or there could be a collaborative research project where a group of 3–4 supervisors will examine and guide a group of 7–10 researchers at the same time. This model can be useful in experiment-based scientific research, where different batches can conduct experiments involving different levels of sophisticated techniques. There can be a grading system for performance in experiments conducted each year. In return to the rigorous burden on the faculty involved in this method, there is the benefit of instilling the spirit of teamwork and using cumulative intelligence in research. Cumulative intelligence has generally proven to be better than individual intelligence³. When ten people plan something rather than one person, it will be less vulnerable to fallacy and fancy. The very basis of democracy, being more successful than other methods for managing the State affairs, is cumulative intelligence. This method will also make Indian science less prone to fraud and futility for which it is frequently criticized in the international science community⁴.

The concern that we have expressed here is broadly addressed by the National Knowledge Commission⁵ as it records, 'The quality of higher education depends on a wide range of factors. But accountability, at every level, is a critical deter-

minant. The higher education system must, therefore, provide for accountability vis-à-vis the outside world and create accountability within the system. Accountability of universities must not be confused with control of the state. Institutional mechanisms, based on checks and balances, constitute the most effective system for this purpose. The essential objective of accountability to society must be to empower students to take decisions rather than simply increase the power of the state. Stipulated performance criteria or inspections are forms of control. We need to create systems that enable students, or their parents, to choose between and assess universities'.

We have a challenge of surging ahead of the Western world for which we need to invent more robust methods. We must think of alternatives. Though the vision and opinion of experienced academicians is essential in this regard, the model given here can also be a blueprint for the future. In the way of testing the efficacy and usefulness of this model and to foresee the possible improvements, small batches in some departments can be started on an experimental basis.

1. John, P., *The Times of India*, 30 December 2006.
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3. Trippi, J., *The Revolution will not be Televised: Democracy, the Internet, and the Overthrow of Everything*, Regan Books, 2004.
4. Nagar, P. K., *Curr. Sci.*, 2006, **91**, 257.
5. National Knowledge Commission Report to the Nation, 2006.

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