

## Proposed functions of a university's plagiarism cell

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*I have argued recently that Plagiarism Cells should also mentor, rather than police. As Indian researchers challenge with research based on newer ideas, rather than conform to template-based or 'me-too' research, I submit below my view on what the functions of a University's Plagiarism Cell could be to help ensure visibility and claim priority.*

I have argued recently that just as patent cells help the members of any institute claim credit for their ideas, plagiarism cells in universities could help claim credit for original ideas; because the creators of original thought do not want to be deprived of credit even when no economic potential is envisaged<sup>1</sup>. I suggest below what the role of a plagiarism cell in a university can be, keeping in mind that India is expanding higher education and research through universities in smaller cities. I make specific suggestions for proactive mentoring, since the minds in smaller cities are unregimented and therefore fertile for producing out-of-the-box ideas. Based on recent initiatives of the UGC that include providing funds for software for checking text-plagiarism, clearance from the plagiarism cell could be a requirement before a thesis is accepted for award of a Ph D degree. Various universities may soon take similar initiatives for submissions to journals or conferences. Recent reports of plagiarism being detected in research project proposals may widen the domain that plagiarism cells would be required to police. I have stated recently that plagiarism cells should also mentor, rather than police<sup>2</sup>. I submit below my view on what a university's plagiarism cell could be.

The plagiarism cell could consist of expert subject committees and each manuscript submitted (or complaint received) would be referred to the appropriate subject committee. Every researcher approaching the cell can identify and suggest the relevant subject committee, and this suggestion would be considered by the cell. 'Mentoring' activities that the cell can perform are listed in the following:

(1) The cell would help authors overcome the fear that some 'inadvertent text-plagiarism' in a project proposal or in a journal or conference manuscript will be raked up later in their career and will unnecessarily haunt and affect them.

The protocol to be followed for this is outlined. The plagiarism cell will do a software check on the submitted document. Through interactive corrections and iterations as necessary, a 'text-plagiarism-free' document will emerge, and this compliant document will be so certified by the cell. This cross-check could be only with reference to those documents that are in the database available to the cell as on that date. The university will justifiably assume that the authors also do not have access beyond this database. Any subsequent discovery of text-overlap with any document outside this database can then be considered as inadvertent.

(2) The cell would help researchers gain visibility and claim priority on submitted research output. At the time authors consider opportune, they may decide to seek visibility for their research manuscript (if put on a preprint archive), or for the publication (if presented at a conference or published in a journal). When the authors so decide, the cell will help. (The cell can also mentor on the best way to release the research output in a particular subject area.) The cell will print a newsletter (with the electronic version on the university website updated daily), in which the title (with authors) and source of availability of each research output will be listed with a short (up to say 50 words or 300 characters) highlight of the original finding of the research. This will help the authors gain visibility as well as claim priority. This could also become relevant as alternatives to conventional peer-review, since post-publication reviews and comments following the patterns of social media are being discussed<sup>3</sup>.

(3) The cell would guide and help those who believe they have become victims of plagiarism. (In my view this would be the most relevant function as India graduates from template-based or 'me-too' research to research driven by original and out-of-the-box ideas.) The

complainant would identify the perpetrators' research output. If it is an alleged case of text plagiarism, the cell can provide universally acceptable evidence. The complainant can use this and approach the journal where the errant paper appeared (the cell can guide the researcher, but presently the journal is unlikely to accept the cell as having a role). The cell can simultaneously take up the issue with the institution of the alleged plagiarists. If, however, the allegation is of result-plagiarism or process-plagiarism or idea-plagiarism, then obtaining a correction becomes increasingly onerous. In these cases the cell must mentor and, if convinced of the validity of the complaint, provide all possible help.

(4) Finally, in case the complaint is valid and a correction is successfully obtained, the cell must help correct records and ensure that the error does not propagate and credit is not usurped. While journals frequently agree to publish corrections (that are unfortunately sanitized and full of euphemisms), many do not ensure that they are downloaded (or read) every time the errant paper is accessed. This is because most journals do not attach the correction but only 'link' the correction, and most readers ignore such links. To make matters worse, the journal in which the errant paper appeared often does not ensure that the erratum is cited whenever the errant paper is cited in their own journal. (This is a confirmation of my view that even referees and editors ignore the links to errata.) Countering such 'for-the-record-corrections' and ensuring that the usurping of credit is not allowed to propagate, can be taken up by the cell with the full weight of the university (or even UGC) thrown behind it.

(5) There is some genuine worry amongst those submitting project proposals to funding agencies (or even those submitting research proposals for beam-time on a big-science facility) that they

should not disclose too many details of the research they propose to carry out, lest a better-equipped referee does the proposed research faster. Further, submission of such proposals may not be treated with the same confidentiality as is a manuscript submitted to a journal, with access being restricted and every access being recorded. As a futuristic proposal, the cell could help university researchers protect ownership of such original ideas that may have to be included when they submit research projects (at least within India). The protocol to be followed for this is outlined. Project principal investigators should be advised to submit to the concerned agency minimal skeleton outlines of their original ideas for research. More details should be submitted in a document to the cell which will carry an

identification code, and the project proposal will refer to this identification code. A referee for the project proposal can, with authorization from the agency where the project is submitted, seek access which will be recorded with the cell. This provides an obvious safety feature, and could be extended to proposals submitted for beam-time allocation on big-science facilities. This suggestion, unlike the previous four, needs acceptance beyond the concerned university. Practicability of this suggestion would require support from the funding agencies and big-science facilities.

There are frequent statements on the quality of research output from our educational institutes, arguing that we must be better equipped and better funded. I feel that our ability to make impact is

also dictated more by the 'originality level' of the research we undertake. As we challenge with newer ideas, rather than conform to template-based or 'me-too' research, we need to ensure visibility and claim priority. The proposed functions for plagiarism cells should be discussed in this light.

1. Chaddah, P., *Curr. Sci.*, 2012, **103**, 350.
2. Chaddah, P., *Curr. Sci.*, 2014, **106**, 349.
3. House of Commons Science and Technology Committee Report on 'Peer Review in Scientific Publications', Report HC 856, London, 28 July 2011.

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## Science education in India is dwindling: causes and potential remedies

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*A major section of the students nowadays is drifting away from science education. Some of the past developments in the country along with the poor quality of human resources engaged in the education systems have wreaked havoc in the expansion of science education. Few measures have been taken recently at tertiary level to reverse the trend. Here, I emphasize on the measures which can help build solid foundation in the learning processes at the school level of education system to retain the glory of science education and research.*

The first Prime Minister of India, Jawaharlal Nehru, envisioned the post-independent growth of our country and nurturing of its population through the advancement of science and technology. Accordingly, emphasis on science education from primary level to building quality science and technology institutes like the Indian Institute of Science (IISc) and Indian Institutes of Technology (IITs) at tertiary and research level were given priority. These efforts helped establish a good ecosystem of fundamental scientific research and development of technologies in the nation. IISc and IITs have emerged as internationally reputed institutes. Young meritorious students were attracted to pursue good quality science and technology courses in the country. However, developments like the establishment and quick expansion of information technology servicing industries from 1980s, liberalization of economy from 1990s and hence booming of real

estate and associated industries and massive low-end job availabilities in these organizations have disturbed the ecosystem. As a result, a sharp polarization in the enrolment of students in commerce and allied disciplines is observed and science streams have taken a back seat. The enrolment in science disciplines is also gradually decreasing over the years. This is detrimental for a country like India, which aspires to be among the nations in the top league in the near future, because this cannot be achieved without scientific research and innovation.

Due to easy employment opportunities, the enrolment of students in professional courses like engineering was overwhelming some years ago. Several engineering colleges mushroomed in the country, approximately 3000 colleges in 10 years to meet the excess demand for engineering courses. However, it is gradually being realized that only approximately 25% of the engineering

graduates from most of these newly established colleges are employable<sup>1</sup>. Further, the current economic slowdown has left several engineering graduates jobless. It has also been observed recently that only half of the total enrolled engineering students complete their course<sup>2</sup>. As only employability generally guides in the selection of a course, and not the interest or passion of the students, it will not be out of context to mention here that the last few years have witnessed a beeline for admission to the MBA course (supposed to be a gold standard for a greener pasture career) backed by graduation in commerce or business management and some lateral entry from science and engineering disciplines too. Again due to quality crunch, the fate has been the same; only 10–25% of the MBA graduates have got some kind of placement and the rest remain jobless. As a result, some mediocre B-schools in the country are gradually closing down<sup>3,4</sup>. At