

Top-scorers need not be the best brains

Slowly but steadily a notion is getting established that the inability to get top-scorers to pursue higher education and careers in science is one of the main reasons why India lags behind in Science¹⁻³. I think this notion is incorrect.

In the present education system based on rote learning and memory-based examinations, only three things can be said about the top-scorers: (i) they are systematic hard workers, (ii) they have a very good memory, and (iii) possibly they also have a conducive family background (peaceful, supportive and in many cases financially sound). The top-scorers (or their parents) know well the importance of money, and have understood the importance of scoring very high percentages of marks (in the 10th and 12th examinations) for getting admission to professional courses.

Top-scorers are generally interested in all subjects, including languages (which alone makes it possible to score more than 90% marks in the aggregate). This would mean that possibly they have no specific interest in any one subject. The first preference of most top-scorers is medical education. If the top-scorers are the best brains suitable for research, we should have been in the forefront of medical research, which we are not⁴. Most of the medical graduates go for practice rather than research. Medical research (especially medical technology) is one area in which we lag behind far more than many other fields. At the same time, it is an area having vast potential for

India and other developing countries.

Memory is not the only thing which is essential for science. What is required in science is a 'creative instinct'⁵. Science needs people who can imagine vividly⁶. Michael Faraday had only three years of schooling and Ramanujan did not have any formal university education. As such they were not top-scorers by any means. But their contributions to science cannot be equated to the accomplishments of any top-scorer, or for that matter the achievements of a thousand top-scorers put together.

It is not intended to say that a good memory and systematic hard work are not needed in science. Scientific research involves two aspects: the first one is the search to discover, for which a 'creative instinct' is essential, and the second one is verification, comparison, generalization, explanation into other realms etc. for which lot of patience and systematic hardwork are necessary⁵.

Creativity can definitely be nurtured. A suppressive environment can also produce creative geniuses. Different people react differently to suppression; some react passively whereas others revolt against suppression. To my mind, many scientific geniuses (especially in India) represent this revolt against the suppression, more than careful nurturing.

The ideas behind the National Science Talent Search award scheme (1964) and the National Talent Search award scheme (1977) are very good. But they do not take into account ground realities. It has to be accepted that in the present socio-economic milieu most of the top-scorers

opt for professional courses. That alone satisfies the aspirations of their parents and the society at large, ensures sound financial gains, and a steady climb on the social ladder. Because of this it is very difficult to attract top-scorers to research in pure sciences. Hence the search for science talent has to be done at the B Sc level; to attract those interested in science to pursue education in science by offering scholarships. Part of the money can also be used for improving the laboratories and libraries in the colleges. Scholarships offered at the school and +2 level for attracting those interested in science are going to be used by medical and engineering aspirants much in the same way as many IAS aspirants use Junior Research Fellowships.

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