Marks vs grades

The National Council for Educational Research and Training (NCERT) has come up with a new system of evaluation where grades will be awarded instead of marks and a student performing badly in an examination will not be declared as failed but will just be placed in a lower grade. Initially the system is proposed for the secondary level examinations, however, there is a plan to implement it at all levels, at a later stage. As a result of much hue and cry by some teachers, students and their parents and probably by some state boards also, the CBSE has deferred the implementation of this system for one year. The NCERT, however, seems to be confident that once people understand the advantages of the proposed system there will not be any opposition from any corner.

The Director of NCERT in an interview on television explained the advantages of the proposed system. First, he said that it will reduce the prevailing competition among the students. It is true that the competition existing among the students is very high. This is not healthy for the proper psychological growth of a student as he/she is under tremendous stress. A stress-free atmosphere will also reduce the fear of examination and nervousness, the latter leading to bad performance in the examinations. Second, a student who is poor in studies and fails in the present system of awarding marks will also be declared as promoted (with a lower grade). This will help the student to pursue higher studies or to get a job according to his/her willingness and eligibility. Moreover, he/she will not have to bear social isolation.

In spite of all these apparently gleaming advantages there are still some questions remaining unanswered that must also be looked into before bringing about any change in the system. It is true that the grade system exists in many other countries (and also in some professional institutions in India). But unlike other countries, there is only little chance of bringing down the competition by merely jumping to a new evaluating system. In India, a highly competitive atmosphere is inevitable due to the very high population versus opportunity ratio. And unless there is a considerable decrease in this ratio competition will exist.

It is ridiculous to say that the new system will provide the poor performers a better opportunity for higher studies. In most of the renowned educational institutions, there are entrance tests and in the job sector also there are qualifying tests/interviews. Still in many cases, candidates considered eligible for application (for the test/interview) are those who secure 50 or 60% (as the case may be) in their qualifying examinations. If the grade system replaces the marks system, the new condition for applying (for the test/interview) may read as, 'those securing grade C (or D) or below need not apply'. Can NCERT stop this process of rejection?

Let us now look into the matter from another angle. Suppose in a reputed institution there are 500 applicants all with grade 'A' (the highest one) while the number of vacancies is only 100. Such a situation is not at all unrealistic. The only way out for the institute is to conduct another test to select the best 100. This will in no way reduce the competition among the students but will also create an additional pain of another examination, more stress and more financial burden.

The present system has one advantage as it provides an opportunity to improve which will not be there in the grade system. Even a student who fails in an examination, can reappear in the examination and try to secure good marks. Will there be a similar opportunity to a student in the grade system?

So, there seem to be fewer advantages and benefits in the grade system. The problem should be addressed keeping in view the country's conditions. Merely copying a system successful at some other part of the globe will not help us. However, by proposing a new system NCERT has accepted that the present system of examination and evaluation is improper and some radical change is required. A change which reduces psychological pressure and examination fear in the students and which provides a competition-free healthy atmosphere.

For the proper assessment of a student a well-thought continuous evaluation system is to be developed. This will reduce the importance of the final examination. Setting up of a national board of education may help to establish a uniform education pattern based on one syllabus and will abolish the differences existing in different school boards. Moreover, an evaluation based on a countrywide examination may also end the need of entrance tests.

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Mammalian cloning – An evolutionary perspective

The recent efforts by a group of researchers led by Ian Wilmut (Wilmut, I., *et al.*, *Nature*, 1997, **278**, 2130–2133) have shown new and exciting applications of cloning technology. Until February 1997, we almost believed in a 'one way' cellular reaction that predictably ended up in differentiation. However, with the mammalian cloning efforts becoming a trend rather than isolated incidents, the genetic stories of dedifferentiation have begun to be rewritten.

Although a lot has been said about the do's and don'ts of cloning, what

seems to have missed the attention of researchers is that mammalian cloning offers an entirely *new evidence* in favour of evolution. If we look at the phylogenetically lower organisms like amoeba, starfish or at the upper end of spectrum, the common lawn grass (an eukaryote), cloning seems to be an everyday phenomenon! However, due to some reasons still unclear, this remarkable heritable future of lower organisms has been slowly pushed into oblivion in eukaryotes. Nevertheless, demonstration of this latent property in mammals makes it a strong case of another 'vestigial organ' or a vestigial trait (to sound more acceptable) in eukaryotes. I am sure supporters of Darwinian theory of evolution will find this observation most interesting.

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Prospecting plant aids in AIDS management

'Herbal renaissance' is blooming across the world[1]. This prompted me to share data on certain plant aids in AIDS management. There are two ways in which AIDS can be managed by plant aids.

The first one is direct HIV virus inactivators like *Ephedra americana*, *Equisetum arvense*, *E. giganteum*, *Marrubium vulgare*, *Minthostachys mollis*, *Psoralea glandulosa*, *Senecio mathewsii*, *Xanthium spinosum* and so on. The action is based on the studies by Edward Robinson[2]. A survey of the recent volumes (1997–1999) of *Central Aromatic and Medicinal Plants Abstracts* shows intensive chemical research on plant aids as HIV – Reverse Transcriptase (RT) inhibitors in Korea, Taiwan, Thailand, Japan and USA. Yamamoto and his coworkers screened 413 Thai plants. Plants with high anionic polysaccharides inhibited RT and prevented gp.120 and CD4 binding *in vitro*. To this category belongs the common weed *Merremia peltata* of Convolvulaceae. Hence, *M. emarginata* Hallier f. from India deserves investigation. Flavonoids of *Plantago asiatica* L. are effective HIV inhibitors as observed by Nishibe and his coworkers. The species is a common Indian drug known as *Ishabgul* and needs investigation as an anti-HIV source.

The pyrenocoumarins from *Calophyllum teysmannii*, and *C. lanigerum* (Cluysiaceae) are specific HIV–RT inhibitors. Further, bark of *Berchemia berchemiaefolia* (Rhamnaceae), leaves of *Lindesa erythrocarpa* (Lauraceae) and whole plants of *Sigesbeckia pubescens* (Asteraceae) were found to inhibit HIV-1 protease to the extent of 56.2%, 50.8% and 46.6%, respectively. Water extracts from the leaves of *Ficus carica* (Moraceae), and *Houttuynia cordata* (Saurauraceae) (> 79%); *Syringa dilatata*, (Oleaceae) and *Hibiscus syriacus* (Malvaceae) (> 40%), inhibited RT-protease activity. Various degrees of anti-HIV activity were demonstrated with compounds from *Annona glabra* (Annonaceae) and *Hopea malibato* (Dipterocarpaceae).

Next, let us consider immunity promoters. If the general immunity is strengthened, half the war with AIDS is won. The deterioration of immunity has been highlighted in Ayurveda. The species recommended are tubers of *Asparagus racemosus*, roots of *Withania somnifera*, stems of *Tinospora condifolia*, tubers of *Ipomoea mauritiana*, *Leptadenia reticulata*, decoction of *Azadirachta indica* and seed powders of *Glycerrhiza glabra*. These plants have also been enlisted as immunopromoters[3].

Certain aromatic plants act as immunostimulants[4]. The species are *Boswellia carteri*, *Inula graveolens*, *Malaleuca alternifolia*, *M. viridiflora*, *Pogostemon patchouli* (= *P. cablin*[5]) and *Thymus vulgaris*. Oral doses of 30 ml of plant extracts or thick topical massage smears (at presumable lymphocyte bases) resulted in remarkable rise of T helper cell count.

Gradual loss of immunity, also called 'Kshaya', is known since centuries. This reduction of resistance leads to predisposition for infection. The only known AZT chemotherapy for HIV itself is said to reduce the general immunity status of the AIDS patient!

Immunity conservation, promotion and stimulation are the sustainable measures to keep away from the syndrome.

I acknowledge, the *Current Science* special issue on AIDS in Asia (1995, **69**) for providing basic stimulus to explore immuno-strengthening therapies.

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