

**Subject:** Re: Meeting of the Normalisation Committee on 29.04.2013 at 4:00 p.m. - regarding.

**From:** sdebasis@isical.ac.in

**Date:** Tue, April 30, 2013 11:43 pm

**To:** "technical section" <technicalsection3@yahoo.co.in>

**Cc:** "sdebasis@isical.ac.in" <sdebasis@isical.ac.in> ([more](#))

**Priority:** Normal

**Options:** [View Full Header](#) | [View Printable Version](#) | [Download this as a file](#)

Dear All,

It was mentioned in yesterday's meeting that we should provide our input on the 'new' procedure proposed during the meeting of 29 April, 2013 by today (30 April) - or by forenoon of 1 May. A write-up on this proposal with some analysis was supposed to be circulated. Even though I did not receive any such email, I am providing my input in any case.

1. The 'new' procedure proposed in yesterday's meeting is to use the following as normalized score of a student:  $40 + 60 * (\text{aggregate \%age of student} - 40) / (\text{aggregate \%age of board topper} - 40)$ . This procedure practically uses the board percentages as is, after stretching the scale to the right a little bit. Several procedures of this kind have been considered in the past (see pages A10-A11 and E2-E3 of the Joshi Committee Report), and there is no end to the little variations that can be thought of without addressing the main issue. The problem with such linear transformations is that the transformed scores of different boards have very different means, standard deviations and quantiles. These are severely affected by different marking patterns of boards, which have nothing to do with students' abilities. That is why at least a rudimentary standardization by mean and standard deviation is practiced in many places (e.g., engineering admissions in Kerala). Use of percentiles takes care of not only the disparity in mean and standard deviation but also in quantiles.

2. Percentile is the most common mode of comparison of scores from different populations. (For instance, when universities ask recommenders to evaluate students known to them, the recommendation form asks for the student to be evaluated among different percentile categories such as 'top 5%', 'top 10% but not top 5%' etc.) The percentiles take care of marking differences, and the allied assumptions are clearly understood. This is why the Indian Statistical Institute has consistently advised the government to use board percentiles - if at all board scores are to be used. This is the only justifiable procedure under the present circumstances. If necessary, the Indian Statistical Institute would be happy to organize a one day seminar to disseminate information about normalization strategies for the benefit of non-statistician decision makers.

3. Like other flawed procedures obtained from percentage marks, the 'new' procedure mentioned above would produce grossly anomalous results. For example, the 'normalized' board score for a student at the 95th percentile of the Uttarakhand Board in 2012 would be 67. The corresponding scores for a student at the same percentile of Maharashtra board would be 76, and that for a student of CBSE would be 90. If these students perform similarly in JEE-Main, the ranks between the Uttarakhand and Maharashtra Board students would differ by several thousand. The CBSE student, in turn, would be placed several thousand places higher than both of them. These conclusions do not change even when 'aggregate %age of board topper' in the definition of normalized score is replaced by the average %age of five board toppers (a modification discussed yesterday).

4. I have consulted several distinguished colleagues, including the Director of ISI, regarding the merit of the newly suggested procedure. All of them were amazed to learn how seriously this frivolous procedure has been taken. They were also disappointed by the series of actions taken by the Education Department, summarized below.
5. Only one school board (CBSE) was represented in the Joshi Committee.
6. Instead of relying on the opinion of statisticians, the Education Department allowed the Chairman-CBSE to flash new material (not previously shared with fellow members of Joshi Committee) in the NIT Council meeting, and to propose a different method. This method had been discarded by the Joshi Committee after detailed and serious statistical analysis. In that meeting, the Joshi Committee was expanded and asked to choose between its previous recommendation and the CBSE proposal.
7. After the expanded Joshi Committee deliberated over email, the flaws of the arguments in favour of the CBSE proposal were exposed through counter-arguments that could not be refuted. On the other hand, support for the Joshi Committee recommendations piled on. These are matters of record.
8. By the time yesterday's meeting was convened, only one of the 'either options' mentioned in Order No.F.33-/2012-TS.III (10 April 2013) was available for adoption. In violation of this order, a THIRD option was floated during that meeting - without heeding my specific request to circulate in advance ANY material that would be perused in the meeting.
9. This new procedure violates the terms of reference of the Joshi committee (Order No.F.33-5/2012-TS.III, 13 August 2012), as well as the NIT Council decision of 4 July 2012, both of which clearly mention 'normalization of class XII Board marks on percentile basis'.
10. At the beginning of the meeting, the Additional Secretary (TE) urged everyone to be flexible and strive for a consensus. Needless to say, when the scientific merit of one procedure over another is beyond doubt, advocacy of flexibility amounts to interference in reaching a scientific decision. The procedure recommended by the Joshi Committee was not even discussed. Instead, the 'new' option was floated.
11. The Additional Secretary (TE) also reminded everyone that it is the fate of 'our children' that we are dealing with. I had heard that argument in the NIT Council meeting also, but did not understand how the issue of 'our children' could help one reach a more scientific decision while comparing two normalization procedures. The repeated usage of the 'our children' argument in support of the CBSE proposal and the newly floated proposal made me realize the meaning of this argument. The two proposals (based on completely divergent assumptions) have only one thing in common - both of them favour the students of a particular board, favoured by a special interest group, over children who are not 'ours'.
12. The Government cannot expect ISI to support its manifest policy of backing a special interest group. If scientific considerations are to be disregarded, experts from ISI should not have been invited to participate in the decision making process. The endless debate over a clear and considered recommendation made by experts is unwarranted.

I would urge everyone to back the only meaningful choice left to us at this stage, and support the recommendation of the Joshi Committee.

Debasis Sengupta.