



Position Paper

Z-SCORE, University entrance and transparency in education

The Supreme Court of Sri Lanka, widening the access to higher education and recalling the State responsibility in fulfilment of the Right to Education, on June 29th, 2012, significantly declared that the application of a common formula of Z – Score for the candidates who sat for the General Certificate of Examination Advance Level [GCE A/L] under the New and Old Syllabi is a violation of Article 12(1) of the Constitution. The Supreme Court directed the University Grants Commission [UGC] to take necessary and relevant steps to calculate the Z - Scores of the candidates according to the accepted statistical norms and principles on the basis that the candidates of the New Syllabus and the Old Syllabus are two distinct populations.

The story behind this notable judgement was on the failure of the authorities to exercise due or expected diligence in the issuance of the GCE A/L 2011 results. The cost and loss of the whole story, not only has a monetary value but also it needs to be considered as the breach of trust on the entire education system.



..... My child sat for the examination for the 3rd time. Last time she was selected for veterinary science and the previous year for biology. The issue is whether she could gain admission this time at least to the biology stream. At the exam, one group was given an easy paper and high marks. The others got a difficult paper and low marks were given. Now those who sat for the old syllabus have been pushed down. When the results were given the first time, my daughter was the sixth in the Kalutara district. But the second time she became 99th and after the judgement she got the 126th place. it is with great difficulty that I bear this. This is my problem. Can you list the z- score marks of these two together? - a participant at 'Sambhasahana – TISL's outreach forum, July 2011

Problem Statement

Though all expected GCE A/L results to be released before 9 December 2011, as it was the common practice to release A/L results before the third school vacation on 10 December, the Commissioner General of Examinations [CGE] stated that releasing of results would be delayed as two separate examinations were held.¹ On 17 December, the Leader of the Opposition, Hon. Ranil Wickremasinghe as well as Hon. Anura Dissanayake, MP made statements in Parliament on the delay in releasing the GCE A/L 2011 results.²

Conducting examinations and releasing of results come under the purview of the Department of Examination [DOE]. The results are generally released by the DOE as per the request of the respective authority. "DOE conducts National Evaluation and Testing Services, provides guidance toward excellence in educational achievement and certification activities using evaluation instrument and methodologies ensuring reliability and validity to suit national needs". The official website of the DOE

The UGC Expert Committee,³ appointed on 24 December after the eruption of the crisis⁴, to develop and propose a formula to calculate Z-Score, having reviewed the data of the student

performances, recommended the method of calculating the Z-Scores based on the pooled mean and standard deviation.⁵ Within a day – on December 25th, the Department of Examination [DOE] released the results of the GCE A/L 2011 with errors on the basis of single population and with no time for analysing which created tension amongst the students and education community leading to an unprecedented crisis in the university admissions. The results found -

- a mismatch between district and the island ranks⁶ of the student,
- that ranks were given without releasing the results of certain subjects -in other words some students did not receive results of certain subjects⁷ especially for the languages, and
- that some students who sat for the examination received results as "absent"⁸.

As a result of the agitations and media exposure of this dilemma, once again, the DOE re-corrected the district and island ranks and released the results again on 26 December 2011. A public statement in the regard was not made by any responsible public official nor was anyone held accountable for this error. Meanwhile, the Minister of Education stated in Parliament that no erroneous results were released to any candidate other than the error in the district ranks of some candidates.⁹

These results changed the Z-score of the candidates as well as the district and Island ranks, adding fuel to the existing controversies. On 30 December 2011, President Mahinda Rajapaksa appointed a five-member committee¹⁰ to investigate into the errors in the district and Island ranks. The Committee submitted its report on 12 January 2012 stating that results issued were correct and the dispute of ranks was also rectified the second time with the issuing of new ranks. Though the cause for the aforesaid crisis was the failure of the education administration, the Committee declared that the errors had occurred due to a mistake of entering both the old and new syllabi results into the system by the DOE.

On 29 June 2012, the Supreme Court, considering the fundamental rights application filed on 10 February by 16 students who sat for the GCE A/L

1. The Island 15th December 2011, Online Paper

2. Parliamentary Deb 17 January 2012, vol 206, No.1, col 77

3. Senior Professor K R M T Karunaratne from University of Sri Jayawardanepura, professor Sarath Peiris from University of Moratuwa, Dr. Dihari Attygalle from University of Colombo, Professor Sarath Kulathunga from University of Kelaniya, Dr. B M S G Banneheke from University of Sri Jayawardanepura and Professor Gamini Samaranyake, Chairman, UGC [see. Parliamentary Deb 17 January 2012, vol 206, No.1, col 83]

4. Parliamentary Deb 17 January 2012, vol 206, No.1,col 104

5. Ibid4

6. Parliamentary Deb 17 January 2012, vol 206, No.1, col 86

7. Index No. 1883461

8. Index No. 7203667

9. Ibid 6

10. Ms. Dhara Wijethilake, Secretary, Ministry of Technology and Science along with Dr. Kshanika Hirimburegama, VC, University of Colombo, Prof. Ananda Jayawardene, VC, University of Moratuwa, Prof. Ranjith Premalal, VC, University of Uva and Mr. Upali Gunasekera, Principal of Royal College, Colombo

and the Ceylon Teacher's Union [No.29/2012], declared that even though it were the same subjects, they were two different syllabi, two different examinations and two different marking schemes, and hence it was unfair to treat them both in a similar manner and pool them together. The Court directed the UGC to recalculate the Z-Score on accepted norms and release the results without undue delay.

University Grants Commission [UGC] which was established under the Universities Act No. 16 of 1978 is empowered with the mandate of planning and coordination of university education, allocation of funds to Higher Educational Institutions (HEIs), maintenance of academic standards, regulation of the administration of HEIs and regulation of admission of students to HEIs. The UGC determines, from time to time, in consultation with the governing authority of each HEI, the total number of students that shall be admitted annually to each HEI. Development of the policy of admission to the HEIs as well as the designing the appropriate formula of Z –Score and inform the DOE the way the results are needed also comes under the purview of the UGC.

Even though the Court directed UGC to release the results without undue delay, as there was a delay once again, the Ceylon Teacher's Union filed a motion at the Supreme Court on 13 July 2012. There were several protests as well against the respective authorities. On 22 July 2012, for the third time, DOE released the results of the 2011 GCE A/L.

The revised Z-Score results calculated on the basis of two different populations brought changes to the previous Z-Scores and ranks of candidates. The fresh controversy was that some of the students who had been eligible, on aborted Z-score results, for University entrance were found disqualified as per the revised results released while some other students became disqualified for previously selected degree programmes.

This aggravated the crisis in the university entrance and the candidates, their parents, civil society and political party members went on protests, demonstrations and public campaigns against the poor administration of education, seeking justice for the victimized students. On 31 July 2012, a few candidates petitioned the Supreme Court on violation of their Fundamental Rights. The

crisis was resolved by the Supreme Court on 12 September 2012 directing the UGC to accommodate 5,609 eligible candidates additionally to the State Universities. This direction was based on the options presented to Court by the UGC.

.....No one can say how this might psychologically affect the students who have been selected to universities at the moment. In case of courses such as Medicine and Engineering, it might be enough to drive some to suicide. In future, the Z-Score should be determined by calculating each question of a question paper differently (as new-old syllabuses), or as two distinct populations. There is no cause to do away with the Z-Score method [Minister Patali Champika Ranawaka, 15 July 2012 <http://www.nation.lk/edition/feature-viewpoint/item/8298-sending-ministers-home-will-not-solve-crisis.html>]

Problem Analysis

Education reforms in 2009 introduced the new syllabi for the GCE A/L and the selection of subjects for the University entrance by circular no. 2009/16 and later amended by circular no. 2009/16 [i] of the Secretary to the Ministry of Education. Accordingly, the new syllabus was expected to be taught from 2009 and those students were supposed to sit for the examination in 2011 under the New Syllabus. The students, who entered the Advanced Level classes in 2008 and before, were required to sit for the GCE A/L under the Old Syllabus in 2011 and 2012. There were 147,396 students from the Old Syllabus and 147,921 from the New Syllabus -altogether 295,317¹¹ students sat for two separate examinations in 2011.

GCE A/L is the last examination to evaluate students' performance in the formal education system in Sri Lanka. It is the common view of the educationalists that GCE A/L is not for university entrance and it is meant for evaluation and certification of the performance of students. However, it has become the entrance examination to the State Universities today.

With each subject being different to each other, and the teaching facilities in schools are not at the same level, the selection system based on raw marks effective before 2001 was found not to be fair. Hence, to avoid systemic unfairness in the process of selection, the Z-score formulated by Professor

11. Parliamentary Deb 17 January 2012, vol 206, No.1, col 87 and col 88

Thattil in 2001, was introduced by the UGC in 2001 and used continuously till 2010 to assess the Z-Score level of each subject.

The Z-Score method is much superior to taking aggregates in ranking students in different streams. There are difficult subjects with low scoring and relatively easy subjects with high scoring at the GCE A/L. The Z-Score brought marks of the subjects to the same level so that meaningful rankings could be worked out. It had been proved that the ranking on that basis was fairer and more reliable, and was considered the best and simplest option available to minimize discrepancies due to different subjects, number of subjects, variable making and different curricula [old syllabus/ new syllabus].¹²

There were no arguments on the application of Z -Score in the selection of limited candidates from a high number of candidates at competitive examinations. The cause of the real controversy in 2011 was on the incorrect application of the Z -Score formula for the 2011 GCE A/L without considering the the difference of the candidates who sat for the examination under the new and old syllabi. It is the common understanding that Z -Score is calculated on single population and not based on pooled population.

The fundamental issue which is the delay of developing the Z - Score formula by the UGC needs to be analyzed. There are three elements in this dilemma.

- Why were there no awareness programmes as in the year 2001¹³ for the public, including academics, teachers and other education administrators, and parents on the new calculation prior to the examination or at least when the crisis deepened?
- Why couldn't the UGC have developed a formula before the results were released?
- Why was the negative impact of their common formula not considered?

Answers to the above are a good way of testing to see whether the UGC had acted responsibly and transparently.

When the whole crisis is assessed, it appears that the authorities have failed to take necessary action since 2009, after introducing the New Syllabus. Since the authorities knew that there would be two examinations in 2011, under the Old and New syllabi, they should have begun developing the

formula from the initial stage, with proper study and wide range of consultations, at least with those who introduced the new formula.

However, according to the Minister of Education,¹⁴ the results could have been released even in November 2011. In addition, in September 2011 the Commissioner General of Examinations had inquired from the UGC how the results of the examinations under the New and Old Syllabus should be released. But unfortunately, there were no responses and when the DOE was to release the results in the beginning of December, the UGC informed the DOE not to release the results until the Z -Score formula was finalized. Further, it is evident that while the DOE was ready with the results in November, the UGC requested basic information from the DOE on 15 December, after nearly 45 days.¹⁵ This clearly proves that the UGC has not only delayed designing the formula, but also was sluggish and irresponsible in releasing the results.

The issue is as to why the UGC could not have developed a formula in advance. The answer given by the Minister of Higher Education was that a formula cannot be developed without having the results. But, it was obvious that a formula could have been developed, as was done in 2001, and sample data used to verify the results. This exhibits the sense of responsibility of the administrators in the education sector!

The next point is the lack of attention on the negative impact of the common [pooled] formula that led to the present crisis. The Expert Committee who designed the pooled formula pointed out that there was a need to maintain the usual ratio of both the repeated and fresh candidates at University entrance. But, this was not expected from them since there had never been such a principle. Even though the Committee had stated as such, there is a contradiction with their given reason, as there is huge difference between the ratio of previous years and the outcome ratio of 2011.

If the UGC had decided to have a common formula (though it has not been in Statistical Science or in Mathematics), the DOE could have been informed before the preparation of the examination papers. On the other hand, whether the DOE had been informed or not, at least during the preparation of question papers it was the responsibility of the DOE to consider possible challenges that could

12. Prof. R.P.Gunawardane, former secretary to the Ministry of Education and Higher Education

13. It was found that, when the Z-Score was introduced in the year 2001, the 15. Department of Examination held a series of meetings with the academics and educational experts, and they have had teacher training and public awareness on forthcoming changes [see Public Outreach Forum, July 2012, TISL.

14. Parliamentary Deb 17 December 2011, vol 205, No.14, col 2562

15. Parliamentary Deb 17 December 2011, vol 205, No.14, col 2562 and 2563

arise in having two examinations. Firstly, the DOE should have ensured that a reasonably equal and similar level of difficulty was maintained for the identical subject in both the New and Old Syllabi examination papers. According to the findings and as it was accepted by the Court,¹⁶ it was revealed that the given level of difficulties had been unreasonably different which was an injustice to the candidates.

..... one of my two children sat for the exam in the old syllabus and the other sat for the new one. The one who sat the old syllabus, got high ranks when the original results were released, but had gone down tremendously when the results were given the next time. The one who did the new syllabus originally was low on a low rank and had gone up this time.....
- a participants of the 'Sambhashana', July 2012.

Residual Issues

Public Trust

Public trust is laid on the responsible behaviour of government institutions, commonly based on transparency and accountability. Thus, the candidates were not happy with the results received by them and there was criticism against the DOE. This is an important factor of trust concerning the results. According to the Minister of Higher Education, as at 12.00 noon on 17 January 2012, there were 57,000¹⁷ candidates, out of 295,317¹⁸ (approximately 19%) candidates who sat for the examination, made applications for re-correction of the results. This is an evidence of loss of trust of the results issued by the Department of Examinations.

University admissions are based on the result sheets prepared after re-correction of answer scripts, and a one month period was given to students to apply for re-correction. In 2009, changes were found in the given Z-Score after the re-correction in 1.28 percent of the total number of applications made.

Solution birth of another problem

It is consoling to see that the crisis has been solved by providing more opportunities to the distressed candidates to proceed with higher education. But still it is confusing why the UGC proposed four options to the Supreme Court to settle the matter, while everyone knew what the best option was. It appears that the UGC was reluctant to take a progressive decision. Meanwhile, the loss of time, money, mental stability and trust on the existing education system are the negative factors that can never be recovered.

Hence, it is vital that take immediate and necessary action is taken by the authorities to restore the public confidence and trust.

University Entrance Examination

The whole education system today has been deviated from a value-based and knowledge-based education, to a university admission-based education which is the cause of the present drawback in the education system. In order to move forward for a National Free Education System, it is high time to consider the GCE A/L as a qualifying examination, and not as a selection test for University education.

Under the present circumstances, several questions arise in the mind of an ordinary person: What is the objective of the GCE A/L? Is it an examination for University entrance? If it is not meant for the selection for Universities, what is the best way of selection? Is the Z-Score the most appropriate approach in ensuring fairness in selection? More than all of these, the underlining factor is the transparency and accountability of the education administration. Was the process transparent? Who is accountable for what?

Transparency and Accountability

The lack of transparency and accountability shown during the crisis by the authoritarian and bureaucratic education administrators, including both Ministers was evident. This has two faces; one is failure to perform as required, and other is irresponsibility.

As the former Dean, Faculty of Law, University of Colombo commented "... I am in view that the University Grants Commission should publish openly every year its admission policy, criteria adopted to select candidates, each candidate's marks and ranking, Transparency will not only make candidates trust the institution and the decision making process, but also cause the institute to be responsible and accountable"¹⁹....[emphasis added], transparency and accountability are two sides of a coin that are inter-linked and inter-related.

Durable Solutions

Furthermore, issues as to what prompted the introduction of the Z score, disparities in the facilities and resources available for teaching and learning in popular national schools and rural schools, inadequacy in the number of university admissions with all those who pass A/L qualifying for higher education have to be given due consideration. After all, state-sponsored education is a fundamental cornerstone of the Sri Lankan state structure.

16. Ibid 23

17. Parliamentary Deb 17 January 2012, vol 206, No.1, col 101

18. Parliamentary Deb 17 January 2012, vol 206, No.1, col 77

19. SC/FR 29/2012

Position Statement

According to the Directive Principles of State Policy and Fundamental Duties of the State, complete eradication of illiteracy and assurance to all persons of the right to equal access to education at all levels is among the one of the principles that guides the lawmakers and the governance of Sri Lanka.²⁰ The Supreme Court, in the case of Karunathilaka & another, V Jayalath de Silva, highlighted the value of the education quoting the following statement.²¹

“Education is a companion which no misfortune can depress, no crime can destroy, no enemy can alienate, no despotism can enslave. At home a friend, abroad an introduction, in solitude a solace, and in society an ornament. It chastens vice, it guides virtue, it gives at once, a grace government to genius. Without it what is man? A splendid slave, reasoning savage” - Joseph Addison, in “The Spectator”

Right to Education has been identified in most of the Universal Human Rights Instruments as a basic right. The Universal Declaration on Human Rights, in Article 26 stipulates that everyone has the right to education; education shall be free, at least in the elementary and fundamental stages, elementary education shall be compulsory. It also identifies that technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

Furthermore, the International Covenant on Economic, Social and Cultural Rights of 1966 (ICESCR), by Article 13 (1), while recognizing the right of every one to education, Article 13 (2) itemises that the States have obligations to respect, protect and fulfil each of the “essential features” (availability, accessibility, acceptability, adaptability) of the right to education.²²

By way of illustration, a State must respect the availability of education by not closing private schools; protect the accessibility of education by ensuring that third parties, including parents and employers, do not stop girls from going to school; fulfil (facilitate) the acceptability of education by taking positive measures to ensure that education is culturally appropriate for minorities and indigenous people, and

of good quality for all; fulfil (provide) the adaptability of education by designing and providing resources for curricula which reflect the contemporary needs of students in a changing world; and fulfil (provide) the availability of education by actively developing a system of schools, including building classrooms, delivering programmes, providing teaching materials, training teachers and paying them domestically competitive salaries.²³

Noting that the Education defines the parameters of liberty, dignity and justice and is the path of social development, Transparency International Sri Lanka [TISL] was keen not only to examine the Z-Score crisis 2011, but also the whole education system and its accountability and transparency. TISL is of the view that,

- the GCE A/L should be a final evaluation of performance of formal education,
- there should be a separate fair and justifiable selection procedure for the University entrance developed through a wide range of public consultation ensuring the active participation of the education administrators, educationalists, experts on Testing and Evaluation, academics, professionals and students,
- a fair and justifiable selection process could be guaranteed only by providing of adequate and ensuring equitable distribution of human and physical resources among all schools,
- the state needs to take appropriate action to accommodate and/ or facilitate all those who are eligible for university entrance, and
- swift action should be taken to develop a national policy on higher education.

Further, TISL believes that the Z- Score crisis 2011 was born and has lived long due to the lack of transparency and accountability of the relevant authorities. The accountability process needs to begin, when the Commissioner-General of Examinations announces the holding of the GCE A/L examination. Simultaneously the selection criteria for universities and the required average level of marks for different degree programmes should be made available to ensure transparency and accountability.

-end-

20. Directive Principles of State Policy and Fundamental Duties of the Constitution. Article 27 (2) (h), Constitution of Sri Lanka

21. Karunathilaka & another V Jayalath de Silva. 2003 1 SLR 35

22. General Comment on its implementation of Article 13, E/C.12/1999/10, CESCR General Comment 13, 8 December 1999

23. Ibid 22