

What does National Assessment of Student Achievement 2012 infer to improve Education System of Nepal? An evidence from Grade 3 and 5 results

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Abstract

This article is based on the National Assessment of Student Achievement 2012 database. Altogether 1,690 randomly selected schools from 28 districts of Nepal were assessed where 38,753 selected students in grade three and 41,479 students from grade 5 were participated. This article searches significant gaps among various groups and necessary suggestions for implication to improve the education system. Analysis also digs out status of bullying in schools which is deteriorating the learning environment. Similar facts are manifested along with how mother education important in improving learning of children. Major idea of this research is to find way out of making system better with limited resources by improving stakeholders manners and government efforts.

Key words: National Assessment, Student achievement, bullying, average score, improvement in education system, implementation of NASA results, student cognitive level

Introduction

The School Sector Reform Plan (SSRP) has envisioned the establishment of Education Review Office (ERO) as an independent institution in order to ensure the accountability of the institutions and the quality of education. According to the Directives for the Management of Education Review Office 2010, a National Assessment of Student Achievement (NASA) unit has been established in ERO, under the Ministry of Education. The main purpose of establishing the NASA unit is to support the government for the accomplishment of educational objectives based on the empirical evidences and feedbacks received from the studies carried out on the student learning achievement.

Table 1.1 Roadmap of NASA

Grade	2008	2009	2010	2011	2012	2013	2014	2015	2016
3&5	√ ¹				√		√		√
8	√ ¹			√		√		√	

1. Administered before SSRP

Source: ERO 2068 BS.

According to above roadmap, grade-8 students' assessment was carried out in March 2012 in three core subjects, namely; Mathematics, Social Studies and Nepali. The average achievement score was found 43% in Mathematics, 49% in Social studies and 49% in Nepali. Following this, in 2013, students were also assessed in Mathematics and Nepali in grade-3 and in Mathematics, Nepali, and English in grade-5. The main aim of these assessments is to produce objective, accurate, and comparative information of student achievement in national level. The purpose is, thus, primarily *not*, to assess the students themselves but, on the basis of primary observations, the efficiency and equality in the educational system. Hence, the student assessment is used as a tool to evaluate the current state of the system with a view to producing the desired results expressed in the school curricula. Viewed from ethical perspective, this research-based activity fulfills the key principles of assessment which need to be considered significant in objective decision making process leading to the improved performance of an educational institution.

Purpose of the study

The main objective of NASA study 2012 was to find out whether the students of grade 3 and 5 reached the goals set in the national curricula. Major focus of this study is to determine the current national level of achievement, investigate the variations in student achievement in terms groups and strata, analyze student background influence in achievement and draw practical implications for educational policy making geared to improving educational quality through enhanced stakeholders's participation and accountability in overall school activities.

Method of the Study

A random sampling method was adopted for selecting 1,690 schools from 28 districts from all 16 stratas. Out of total 38,753 selected students in grade three, 17,256 were boys and 17,166 were girls; similarly, in

case of grade five, 19,617 boys and 19,783 girls out of total 41,479 students were taken as sample population for the study.

Test items and questionnaires were pre-tested in 13 districts and analyzed with standard methods to examine the reliability and validity. The alpha reliability of the test was established as high as 0.89 (or above) and the validity was assured by using the specification grids of the curriculum developed by the Curriculum Development Center (CDC). From the selected items, three versions of the final tests in each subject were administered, with the final scores equated by IRT modeling. From a methodological standpoint, NASA 2012 fulfilled the international ethical principles and practical criteria for a good assessment. The results were also linked to the set of results from the 2011 assessment in language and to the international item banks of TIMSS and PIRLS. For the Nepali language assessment, the Common Framework of Reference for Languages (CEFR) was also used to obtain the absolute level of the students from a language achievement level point of view.

In this way, the results were reported in the mean as percentages of maximum marks.

Major Findings of the Study

- National mean score of grade-3 in Mathematics and Nepali was found 60% and 63% respectively. Similarly, mean score in Grade-5 was found 53% in Mathematics, 59% in Nepali and 54% in English. Moreover, certain content areas and topics were found learnt less effectively than others. More importantly, students' capacity to solve tasks requiring higher ability was found very low. (see table 2 below)
- Mother tongue was found influencing factor in the achievement of Nepali and English. However, such difference is not notable in Math.
- Parent's socioeconomic status roughly cooresponds with the children's learning achievement. That is to say, children from comparatively poor socioeconomic/illiterate family background demonstrated low performance in all respects.
- Most of the students in lower grades were found carrying on their studies alongside un/paid household chores for long hours.
- Discrepancies were seen in students' age and enrolment. Students enrolled with proper age in a class showed better performance.
- Many students did not have access to textbooks in time. For example, 4–6% of grade-3 students lacked the proper text books in Mathematics. This phenomenon seemed to be same in grade eight.

Table 2. Summary of the achievement scores in percentage.

Heading	Grade 3 Nepali	Grade 5 Nepali	Grade 5 English	Grade 3 Maththemat cs	Grade 5 Mathematic s	
Total	63	59	54	60	53	
Boys	63	59	55	55	54	
Girls	64	61	53	55	53	
Eastern development zone	54	52	39	52	45	
Central dev. zone	59	54	49	54	51	
Western dev. zone	67	63	59	63	57	
Mid-western dev. zone	54	52	44	52	45	
Far-western dev. zone	59	58	49	58	51	
Kathmandu Valley	80	78	79	78	68	
Mountain region	61	61	51	60	56	
Hill region	60	57	49	55	49	
Terai region	57	53	46	55	49	
Objective items	71	66	64	66	62	
Subjective items	51	56	50	54	44	
Knowledge level items	72	71	64	59	65	
Comrehension level items	65	63	50	64	59	
Applicaton level items	56	61	49	53	52	
Higher ability level items	37	47	35	-	40	
Reading	64	56	50	Arithmetic	61	50
Writing	54	58	49	Geometry	60	49
Grammar	65	64	57	Numeracy	54	57
Vocabularies	60	70	58	Algebra	40	58

- Differences in terms of districts, developmental regions, institutional and community schools are remarkable. However, the gap between ecological zones and rural/urban schools are moderate but growing. Of the selected districts, Khotang, Udaypur, Salyan, Jumla, Mahottari, Achham, Bardiya, Saptari and Rolpa are at the bottom, securing lowest average score; whereas, Kathmandu, Lalitpur, Bhaktapur, Kaski and Parsa are at the top with highest scores.
- Large numbers of students were reported facing either bullying from their peers or unfair treatment from their teachers. Consistently 54–56% students encountered some kind of bullying in school during last month; and similarly, 5–10% of students were experiencing a severe kind of bullying; the latter is more frequent in grade-3 (9–10%) than in grade-5 (5–6%). It seems that the higher the grade, the more cases of unfair behaviours reported.
- No remarkable difference was seen in students' achievement in terms of gender. Within the last 14–15 years, the gap between the sexes has been decreased in Mathematics. However, no significant change has been noticed in case of Nepali and English. Students from Mountain and Urban schools have gained

radically; Eastern region seems to have dropped down while the Far-Western has risen remarkably both in ranking and in absolute terms.

- Nepalese students' performance is seen remarkably lower than the international average in TIMSS- and PIRLS database. Within the Mathematics datasets, the Nepalese students are on average one year behind the international average standard. This indicates that 5th graders are somehow at the level of grade-4 students.
- Students are weaker in Algebra than in Arithmetic and Geometry in both grades in Mathematics; in Nepali and English, the achievement in Reading and Writing skills is lower than in the Vocabulary. In some cases, the low learning level is explained by the low weighting given to the topic in the curriculum. CDC has recently placed Geometry in the beginning of the curriculum and textbook. This attempt is indicative to better performance and a positive change towards improvement in learning achievement.

Conclusions and Implication

1. It is required to raise the standard in Algebra in Mathematics and Reading and Writing in Nepali and English in grade-3 and 5 without neglecting the other topics.
2. Textbooks and teacher training courses need to include exercise on problem solving, comparing things, analyzing phenomena, and synthesizing results from several sources so as to raise the standards of achievement in Higher Ability.
3. In consideration Management Information System, basic resources and support has to be channelized to the schools having absolutely low achievement level. A separate study is required in this regards.
4. Development of a comprehensive and long term scheme with coordination of concerned stakeholders, at local as well centre level, has been realized to raise the standard of community schools.
5. A support scheme at district level is desirable focusing on students of low performing language groups, viz., Tharu, Gurung, Sherpa and Madhesi community in their educative process.
6. Sensitization education for parents, particularly focusing the mothers' literacy and other educational programs through Open School/University can also help improve the situation.
7. In order to improve the student achievement in national level, a strategic plan of reducing the phenomena of child labor is required in DOE.
8. To ensure that all the students' achieve the pre-set educational goals with no prolonged study time, attention needs to be given to students' enrolment with proper age.
9. Ensuring timely availability of textbooks particularly focusing on the remote areas would undoubtedly help students perform better in their study.
10. In order to eliminate the unfair behavior like bullying, corporal punishment and discrimination in terms of caste, region and others in schools, special measures could be adopted through various trainings, orientation and awareness activities at local level.
11. To ensure better performance in higher grades, more efforts and resources need to be channelized to lower grades.



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