A decade after reforms, did the student achievement at primary level improve?

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Introduction

Improvements in the quality and the efficiency and equity of education depend on the nexus of teaching and learning. National Curriculum Framework (NCERT, 2005) strongly advocated an integrated approach to the teaching of different skills, and it wanted schools to pay special attention to home languages as key factor affecting success at school' (p.40) . NCF further states that 'the narrow aim of school mathematics is to develop useful capabilities, particularly those relating to numeracy' (p. 42). But even for these limited goals the task involved is huge. National Focus Group on Systemic Reforms for Curriculum Change had observed that even after five years in schools, only 60 percent of children are able to read, write and do basic calculations, (NCERT, 2006).

Kerala Curriculum Framework (SCERT, 2007) envisages transforming schools to spaces where valuable knowledge is sought after such that experience from schools is helping students from all backgrounds to prove their ability, and find out their place and identity through the educational process; and thus, making drilling, availability of learning-aids, tuition, or guidebooks unimportant in the facilitation of learning. Having achieved the universal school enrollment at the state level, this new curriculum framework, envisages ensuring quality education. In mathematics, which also is visualized as a language with its own symbols and rules of expression, focus again is in enabling students to assimilate and communicate mathematical concepts (p. 79).

Significance of the Study

In spite of progress in school access, more effective planning and policy mechanisms, and implementation of massive training programmes for teachers, dissatisfaction persists with education systems as it fails to meet social aspirations. Research studies conducted both at national and state levels point out low level of learning in schools. Children who get poor instruction at the primary level are more seriously harmed by the early learning experiences and tend to do poorly in schooling across the years. By the late 1980s, it was clear that Kerala had not only achieved mass literacy, it had also been able to ensure that the overwhelming majority of its children entered school. In Kerala, the most literate state of India, effort for higher-quality schooling has replaced the attention to expansion and access, at least from the beginning of 1990s. Attention in Kerala in the 1990s turned to other issues in school education: the retention

of children in schools, the quality of education and new forms of community participation in school education. Internationally, the most common meaning of education quality is level of student achievement on selected portions of the curriculum. Like any other study on quality of education, this paper also acknowledges that full agreement is unlikely among parents, teachers, administrators, and students about the nature, measure and steps to initiate and sustain improvement in quality.

Objectives of the Study

This study is an attempt to gauge the in Malayalam, science, social studies and mathematics among students who are studying in Grade 7 and to compare that with a comparable sample of students who have completed standard 6 during 1998-1999.

Table 1: ***Comparison of achievement of upper primary students during 1999 and 2011***

Subject area	1999		2011		Critical ratio
	Mean	SD	Mean	SD	
Malayalam word and sentence level	3.58	1.38	3.44	1.13	-1.51
passage comprehension	2.11	1.21	1.97	1.20	-1.59
malayalam achievement	5.69	2.26	5.41	1.86	-1.85
Science					
factual science	2.90	1.24	2.82	1.22	-0.84
science higher order	2.40	1.15	1.84	1.15	-6.59
achievement in science	5.30	1.84	4.66	1.90	-4.62
Social science					
SS facts	2.45	1.28	3.07	1.11	7.07
SS higher order	2.00	1.12	1.76	0.91	3.13
SS achievement	4.45	1.92	1.76	1.61	2.99
Mathematics					
Geometry	3.45	1.34	2.93	1.33	5.28
Daily arithmetic	1.61	1.13	1.59	0.99	-0.24
Achievement in maths	5.05	2.01	4.52	1.91	3.73
Achievement in factual content	12.37	3.29	12.26	3.12	0.47
Achievement in higher order competencies	8.11	2.85	7.16	2.60	4.74
Academic achievement	20.49	5.48	19.42	5.02	2.75

While considering the skill of passage comprehension and Malayalam achievement, there is no significant difference between the upper primary students of 1999and 2011 ($p=0.05$).But, the groups do differ significantly when comparing their attainment in higher order skills and total achievement in science ($p<0.01$) though they do not differ significantly in achievement of factual science items. Even though students of 2011 have achieved factual social science more than the students during 1999, the difference between them in higher order competencies and achievement in social science is significant. The attainment of geometrical knowledge, daily arithmetic,factual content of mathematics, higher order competencies in mathematics and the

overall achievement in it by the students of 2011 is not higher than that by the students of 1999. The difference between them in attainment of geometrical knowledge and overall achievement in mathematics are very significant. Taking the total achievements of the two groups, it can be found that there is a significant difference between them and more achievement is in the case of students of 1999 students.

Table 2: ***Comparison of achievement of low achieving upper primary students during 1999 and 2011***

Subject area	1999		2011		Critical ratio
	Mean	SD	Mean	SD	
Malayalam word and sentence level	2.51	1.15	2.74	1.28	1.33
Passage comprehension	1.21	1.01	1.07	0.99	-0.99
Malayalam achievement	3.72	1.64	3.81	1.74	0.38
Science					
Factual science	2.29	1.07	1.87	1.13	-2.70
Science higher order	1.75	1.08	1.10	0.85	-4.75
Achievement in science	4.04	1.60	2.97	1.57	-4.77
Social science					
SSfacts	1.55	1.13	2.48	1.17	5.72
SS higher order	1.37	1.01	1.36	0.90	-0.07
SS achievement	2.92	1.55	3.84	1.64	4.07
Mathematics					
Geometry	2.41	1.19	1.81	1.02	-3.83
Daily arithmetic	0.82	0.90	1.03	0.85	1.70
Achievement in maths	3.23	1.43	2.84	1.50	-1.88
Achievement in factual content	8.76	1.96	8.90	2.91	0.40
Achievement in higher order competencies	5.15	1.47	4.56	1.71	-2.62
Academic achievement	13.91	2.05	13.46	3.85	-1.03

When comparing the achievements of low achieving upper primary students during 1999 and 2011, there is no significant difference in the attainment of the skill of passage comprehension. Malayalam word and sentence level achievement of 2011 students is not significantly higher than that of 1999 students of low achieving category. Factual knowledge and higher order skills in science and also the total achievement in science by the low achieving pupils of 2011 and 1999 are significantly different. The social science facts gained by and total achievement in SS of 2011 low achievers are significantly higher than that of 1999 low achievers, but there is no

considerable difference between them in obtaining the higher competencies coming under social science. The groups are significantly different in the acquisition of geometrical knowledge and higher order competencies in mathematics. Total achievement in mathematics acquired by low achievers of 2011 is poor when compared to those of 1999. The difference between 1999 and 2011 students in the attainment of daily arithmetic and factual content in mathematics among low achievers is insignificant. The total academic achievement is lesser when coming from 1999 to 2011.

Table 3: ***Comparison of achievement of high achieving upper primary students during 1999 and 2011***

Subject area	1999		2011		Critical ratio
	Mean	SD	Mean	SD	
Malayalam word and sentence level	4.78	1.11	4.14	0.89	-4.51
Passage comprehension	3.10	0.99	2.89	0.91	-1.56
Malayalam achievement	7.88	1.72	7.03	1.27	-3.96
Science					
Factual science	3.67	1.26	3.54	1.02	-0.80
Science higher order	3.12	1.00	2.75	1.04	-2.57
Achievement in science	6.80	1.58	6.29	1.58	-2.28
Social science					
SS facts	3.14	1.29	3.66	1.00	3.19
SS higher order	2.61	1.02	2.21	0.81	-3.07
SS achievement	5.75	1.88	5.87	1.35	0.52
Mathematics					
Geometry	4.54	0.95	3.82	1.14	-4.86
Daily arithmetic	2.48	0.94	2.06	0.93	-3.18
Achievement in maths	7.02	1.38	5.88	1.63	-5.33
Achievement in factual content	16.13	1.81	3.82	1.14	-3.77
Achievement in higher order competencies	11.31	1.85	2.06	0.93	-5.39
Academic achievement	27.44	2.53	**5.88**	1.63	-6.40

The comparison of achievement of high achieving upper primary students of 1999 and 2011 shows that the Malayalam word and sentence and total achievement in Malayalam is below that of 1999 group and their difference is highly significant. The difference between the attainment of skill of passage comprehension by high achievers of 1999 and 2011 is with no significant. There is significant difference (at 0.05 level, but not at 0.01 level) between the groups in attaining higher level skills and in the total achievement in science, but the difference the groups in the attainment of factual science is insignificant. The acquisitions of social science facts is significantly higher in favor of 2011 groups, but the acquisition higher order competencies in science is significantly higher in favor of 1999 group, and there is no significant

difference between the total achievement of the two groups in social science. The high achieving groups of 2011 and 1999 differ in the attainment the knowledge in geometry, daily arithmetic, factual mathematic, higher mathematical skill and in the total mathematics achievement significantly. The overall academic achievement of high achieving group of 2011 is very low when compared to the 1999 group, and the difference between the achievements of the two groups is highly significant.

Implications

So, the study concludes that Overall achievement of students has come down after a decade, especially attainment of higher order competencies. It is found that , generally achievement in Malayalam of the two groups are similar, while in social studies factual attainment the 2011 group has advantage over the 1999 group, but not in the case of overall social studies attainment and non-factual items. Overall science attainment and attainment in higher order skills in science has become poorer after a decade. In mathematics the score of the present students is at par with their predecessors, but the former have significantly lesser score in geometry. Students at both the end both the ends of achievement distribution have significantly lesser attainment in Malayalam, science and mathematics have lesser attainment levels than a decade earlier. Even comprehension and deriving conclusions which are especially focused in the present primary curriculum cannot be firmly said to have improved. The major suggestions made in this regard revolves around (1) Preventing the development of difficulties (2) Making the curriculum flexible, (3) placing the emphasis of primary education on the fundamentals (4) Strengthening good practices in vogue through proper implementation (5) Enhancing instructional facilities at schools (6) training teachers and Seeking parents' support to deal with competencies.

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