QUALITY AND EFFICIENCY OF THE SCHOOL SYSTEM -
AN ANALYSIS

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After many years in the comfort of general public trust, education has come under scrutiny. The World Bank points out that India lacks an effective quality assurance mechanism at the secondary level of schooling. Efforts to improve the quality of secondary education are thus urgent. There must be some type of controlling mechanism intertwined with school management for ensuring the quality of the system. The principal objective of this paper is to study the perception of the school heads towards the need for instituting a comprehensive quality control mechanism into the school management system. A sample of 188 secondary schools – about 34 percent of the population in Krishna district of Andhra Pradesh in India, was selected through stratified sampling technique. The primary data was collected through self designed questionnaire and interview schedules. The findings reveal a strong association between the type of school and the preference for quality control mechanism. Schools under public sector and aided managements are majorly reluctant whereas a majority of the unaided managements showed strong preference for instituting a quality control mechanism.

INTRODUCTION

The 1990s have been a decade of economic, social and political uncertainty during which virtually every public institution has been criticized for failing to live up to the expectations. In education, this criticism has ranged from questions of educational purpose, practices and reform to questions of accessibility and justification of expenditures (Earl, 1999). The educational goals of the countries, even though vary with the social and cultural traditions and also with the political institutions of each country, can generally aim at total national enlightenment and the training of human capabilities required for the rapid development of the State. After many years in the comfort of general public trust, education has come under scrutiny and the think tanks, commissions, business forums and government reviews have decried the state of public education and prophesised grave future unless rapid change is initiated. Educating children eventually produces more educated adults, and many economists have suggested that this type of investment raises incomes in developing countries more than in others. This opinion is backed by Nobel prize-winning research (Schultz, 1989). Investment in human capital has caused economic growth in East Asia (McMahon, 1998). A year of education is associated with a 3 percent to 14 percent increase in wages and productivity in Sub-Saharan Africa (Simon, 2000). In Taiwan, it is found that rising education rates are positively correlated with growth since 1960 (Lin, 2003).

Educators are under pressure to show the public that what they are doing is working, and governments everywhere have seized on education as a cornerstone for their political agendas. In such a situation of national priority given to education, simply investing in the system and letting it develop in its own way and produce the results as a natural output will not be the spirit of management. There must be some type of controlling mechanism incorporated in the system itself for ensuring the quality and efficiency of the system to ascertain the envisioned goals of the nation as well as the society.

Locating the term quality in educational discourse is now a universal concern. While most countries’ education systems are expanding quantitatively, too many are failing in their fundamental purpose of imparting learning. A well-functioning school system should ensure
a uniform quality of education; that is, each child in the system, irrespective of regional or socio-economic differences, should have access to the same standard of education. For the parents and students, improving the quality of education invariably means raising the levels of academic performance usually measured in the test scores in various subjects which form part of school curriculum. The draft of education in India has reached the extreme as it ranks sixth among the seven emerging economies of the world, in terms of education quality (Associated Chamber of Commerce and Industry (ASSOCHAM), 2008). Koichiro Matsuura, Director-General of United National Educational Scientific and Cultural Organisation (UNESCO), said that ‘achieving education for all fundamentally relies on assuring decent quality: what children learn and how they learn can make or break their school experience and their subsequent opportunities in life’. Factors that determine the quality of education include: the quality of teachers; the curricula and teaching processes; and the quality and availability of learning materials. The Central Advisory Board on Education (CABE) committee had worked out the expenditure that will be incurred if all secondary schools are managed like Kendriya Vidyalayas. The total costs in such a scenario do not exceed six percent of the Gross Domestic Product (GDP). However differently the term ‘quality’ in educational settings is perceived, what actually happens in the classrooms ultimately determines the level of quality education that children acquire. As classroom processes are a component of whole school culture, the quality aspect is related to the characteristics of schools (Guruprasad, 2009).

Unfortunately, no national data on learning achievement levels was available in India until 2006 (Geeta, 2007). Secondary education in India is institutionally diverse, with three National Boards and 34 State and Union Territory Boards. Each Board has its own specified curriculum and school certificate examinations for Grades 10 and 12. The result is lack of coordination and non-comparability of learning outcomes as measured by Board examinations between states and over time, a critical weakness in system accountability. The series of Annual Status of Education Report (ASER), initiated by Pratham Foundation, UK, since 2005, reveal that the quality of learning is not uniform across states and in many cases, even within states. The ASER (2006) reports that the percentage of class 1 students, who can read alphabets or more, is more than 85 percent in districts across Kerala, Madhya Pradesh and Maharashtra and in most of the hill states. On the other hand, in large parts of Tamil Nadu, Bihar, Uttar Pradesh, Rajasthan and Jharkhand, less than 75 percent of class 1 students can read alphabets, in many districts this number dips below 55 percent. However, the quality parameters and the minimum levels of learning are mostly concerned with only the primary level of school education. These aspects of secondary level are still to be explored.

The national policy on education reiterated the urgency to address the quality concerns in schools education on priority basis. Quality cannot improve by itself. It requires reforms in teacher training; improvements in the facilities and infrastructure in schools; teachers’ motivation; and a change in the style of teaching to make it attractive to the students. The policies recommended the establishment of Minimum Levels of Learning (MLLs) for the various subject areas at different stages of schooling. In this context, a Government of India committee, under the Chairmanship of R.H. Dave, elaborated the MLL curriculum concept that designates the competencies to be mastered by the primary level pupils in each subject, at specific points in time. The MLL approach implies that the teacher’s responsibility is not confined to syllabus coverage. Rather, teachers must be responsible for their pupils mastering designated competencies. This approach has necessitated on-going development of MLL-based textbooks and MLL-based evaluation. It has also introduced a higher concept of teacher accountability. India ranked 102 out of 129 in UNESCO 2009 Education for All Development Index, which grades on the quality, spread, and gender balance of primary education and adult literacy (Bibhudatta, 2009).
Conclave of the Quality Council of India (QCI), in 2007, Dr. APJ Abdul Kalam suggested that QCI should develop an accreditation policy and rating criteria for the schools in the country. As a result, the Quality Council of India has initiated a project to introduce the quality accreditation standard for quality school governance in the Kendriya Vidyalayas.

Recent research indicates that quality is more important than access in school education context in determining future income and contribution to economic growth. With current low levels of efficiency in India’s secondary schools, the estimated cost of producing a lower secondary graduate is high, around Rs. 21,500 (about US $500 in 2005), or about Rs. 40,000 (US $911) for both levels of secondary education (World Bank, 2009). Analysis of key factors affecting student achievement confirms that schools play a very important role, determining approximately 50% of student achievement. This is an important finding relevant for policy, as it shows that schools can overcome to some extent disadvantageous socio-economic backgrounds of children and their parents. Analysis of these key factors and international research more generally indicate some consensus regarding the elements of educational quality, which include inter alia the quality and availability of teachers, the curricula and pedagogical processes applied to master it (Wu et al., 2006), the quality and availability of learning materials, learning assessments and examinations, and quality assurance/supervision. Teacher’s effectiveness is also weakened by a lack of teacher accountability. Unlike elementary education which has undertaken serious efforts over the last five years to enhance teacher effectiveness, increase community oversight of school performance (including teacher attendance), and decentralize teacher recruitment to local levels (increasing accountability), no such reforms have been undertaken at the secondary level. Public financed secondary teachers are thus largely unaccountable to parents, headmasters and educational administrators. The much decried quality of learning materials and the very limited availability of Information and Communication Technology (ICT) at the secondary level limit teachers’ ability to upgrade their subject knowledge and students’ ability to access essential learning materials.

India’s secondary school sub-sector comprises approximately 1,50,000 schools, of which about 1,00,000 are secondary schools. The World Bank (2009) points out that India lacks an effective quality assurance mechanism at the secondary level, for government, aided, and unaided schools. The growth of the educational administration has not kept pace with that of the school system, particularly at the district and sub-district levels. Data are not available on a timely basis for district offices to monitor key performance indicators at the school, block, or district levels. Finally, the gaps between most parents’ educational backgrounds and the academic level of secondary education make community-based school inspection a weak (though still important) alternative. There is a need for professional supervision. Unlike in elementary education, there are no national assessments of student learning at the secondary level, essential for the identification of key determinants of achievement and the design of interventions to improve it, and to compare educational performance of states and sub-groups across time. This is a critical gap; unless quality can be measured it is impossible to know if it is improving or declining. Furthermore, as India has not participated in international assessments of student learning, such as the Programme for International Student Assessment (PISA), it is very difficult to benchmark its emerging human capital against that of other countries. However, the Indian Government has made a positive commitment in 2008 to participate in PISA in future. Small-scale learning achievement studies and parental preference for private schools suggest that the quality of public secondary education is alarmingly low. Efforts to improve the quality of secondary education are thus urgent. The World Bank (2009) has suggested introduction of school-based management in India’s publicly funded secondary schools to promote improved decision-making and increased community and parental involvement which can increase
accountability of decision makers and teachers. In this context, the present study tried to understand the opinions of the headmasters/principals of the schools operating under three major types of managements regarding the need for instituting a comprehensive quality control mechanism in school management.

REVIEW OF LITERATURE

After access and expansion, the issues of quality and efficiency of the school system attracted many researchers from non-governmental organizations than academicians in India. The preliminary findings of the Pratichi research project on the state of primary schooling in Kolkata (Sen, 2009) were fairly 'grim' and the overall situation of primary education in Kolkata municipal corporation-run and State-run schools in the city was ‘quite discouraging’. The study opined that the parent-teacher committees need reviving and a multi-pronged approach was needed to deal with educational underachievement.

The Annual Status of Education Report (ASER) (Rural) 2008 report (ICICI Foundation, 2009) opined that the difference in learning achievement levels between government and private school students was about 9 percentage points for children in class 5 at the all-India level with private school students outperforming those in public schools. The report further states that approximately 44 percent of students in class 5 could not read text prescribed for the class 2 curriculum, while around 60 percent were unable to perform simple divisions. In class 2, only 9 percent of students could read text suitable for their age, and 48 percent could not even recognize numbers between 10 and 99.

As per the ASSOCHAM’s Eco Pulse Report (2008), India was at the last position in terms of quality of secondary education while Russia and Brazil got maximum scores. Its score point in this category was one on the scale of two. The Indian primary education secured 0.66 score points on the scale of 2 in quality analysis. The highest scorers were of Russia and China with 1.58 points and 1.57 points. However, only in terms of pupil-teacher ratio, the country outsmarts all as in India for every forty students, there is one teacher. The pupil teacher ratio was the highest for secondary level in India, when compared to China and Brazil, with average 32 students for one teacher. The study concludes that the quality level of education in India was grim and India lags behind its peers at almost all the levels including primary, secondary, higher, and tertiary education.

Another study by Jishnu and Tristan (2008) compared and placed two Indian states at 46 and 42 ranks respectively among the 51 other countries tested in the Trends in International Mathematics and Science Study (TIMSS). The study further opined that it was totally undesirable that after 9 years of education, between 30 percent and 40 percent of children in these two states are unable to pass a low international benchmark described as ‘basic mathematical knowledge’.

Yeshodhara and Pour’s (2006) study in Mysore city indicated that more than 50 percent secondary school teachers (58.2 percent) exhibited ‘average’ level of perception about Total Quality Management (TQM) in education. However, the percentage of teachers with ‘above average’ level of perception (24.3 percent) about TQM was more than that of teachers with ‘below average’ level of perception (19.9 percent).

The ASER (2006) report found that in 2006, nearly 47 percent of children who were studying in grade 5 could not read the story text. In arithmetic, 55 percent of grade 5 and 25 percent of grade 8 children could not solve a simple division problem (3 digits divided by 1 digit).

Tooley and Dixon (2005) found that children in low-budget unrecognized private schools in Delhi performed 24 percent better than government school children on a standardized English test. It further found that they scored around 80 percent higher average
marks in mathematics and Hindi and more than 80 percent of government school teachers were sending their own children to a private school.

Thus the empirical findings provide an overview of the quality and efficiency of the system at different levels of schooling. Many of the studies tried to measure the quality in terms of the students’ academic achievement at different levels. However, the focus on the issue from the management perspective was an observed gap in the cited literature. Hence the present study is an attempt to study the quality and efficiency issues from the school management perspective.

**OBJECTIVES OF THE STUDY**

1. To study the perception of the school heads towards the need for instituting a comprehensive quality control mechanism into the school management system.
2. To analyze the implementation of the quality assurance and intervention mechanism at secondary level.
3. To know the prescribed minimum levels of learning as bases for quality assessment at different levels.
4. To draw out the difference of perceptions among the three major types of school managements.

**RESEARCH METHODOLOGY**

The study is exploratory by nature and stratified sampling technique has been utilized to draw the sample from the finite population of 557 secondary schools operating under three major types of management in Krishna District of Andhra Pradesh in India. The sample (Table 1) has been made largely representative by selecting a sample of 188 schools accounting for more than 32 percent from each category of the population and geographically representing 49 out of a total of 50 Mandal administrative units.

<table>
<thead>
<tr>
<th>Types of School Management</th>
<th>Public Sector</th>
<th>Private Aided</th>
<th>Private Unaided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>346</td>
<td>71</td>
<td>140</td>
</tr>
<tr>
<td>Sample</td>
<td>117</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>Percentage</td>
<td>33.82</td>
<td>36.62</td>
<td>32.14</td>
</tr>
</tbody>
</table>

The primary data is collected through self designed questionnaire and interview schedules from the Headmasters/Principals of the selected secondary schools. The data is analyzed through chi-square test with the help of SPSS 19 to establish the goodness of fit, consistency of association and the pattern of responses.

**RESULTS AND DISCUSSION**

The ultimate aim of any school system is developmental outcome. India has a long history of multiple management models at the secondary level, which provides opportunities for further experimentation and reforms. The school system reforms should focus on improving student outcomes because they form the foundation for development outcomes and are affected largely by factors directly in control of the school system. In actual practice, however, schools are the tail end of the system, receiving instructions and orders from higher levels of the hierarchy. They are expected to follow guidelines provided by the governments, leaving little autonomy to the wisdom of the school and its staff and the needs of the children.
The study attempted to find out the perceptions of the school heads regarding the quality control mechanism in the selected secondary schools.

**Implementation of Quality Assurance Programmes**

Regarding the objective of analyzing the implementation of the quality assurance mechanism, it is found that neither any kind of quality assurance mechanism nor any intervention programme was implemented in the sample secondary schools.

**Prescription of Minimum Levels of Learning**

When it comes to the prescription of the minimum levels of learning for different subjects at different levels of the secondary schooling, the findings indicate that such standards were neither prescribed nor specified by the educational administration. Since there was no initiative in this direction by the centralized bureaucracy, the schools are also not forced to take care of the minimum levels of learning. However, it is difficult to establish and test the learning levels in the present system since end examination is not compulsory for grades other than 10th class. However, despite the governmental initiation for establishing and implementing the minimum levels of learning, a good number of private unaided managements are observing this on their own. The unaided managements are prescribing the customized minimum levels of achievement for all the subjects at all the levels. Further, they are regularly monitoring the compliance of the same.

**The Need for a Comprehensive Quality Control Mechanism**

The responses regarding the need for a comprehensive quality control mechanism are analyzed hereunder.

**Goodness of Fit**

The responses of the school heads regarding the need of instituting a comprehensive quality control mechanism in the school management framework at secondary level are processed with chi square test for establishing the goodness of fit of the data for further analysis.

**TABLE 2**

**Goodness of Fit Statistics**

<table>
<thead>
<tr>
<th>Need for quality control mechanism</th>
<th>Chi-Square</th>
<th>Df</th>
<th>Asymp. Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.553a</td>
<td>3</td>
<td>.036</td>
</tr>
</tbody>
</table>

*a*. 0 cells (.0%) have expected frequencies less than 5.

The minimum expected cell frequency is 47.0.

The chi square value of 8.553 with a $p$ value of 0.036 is statistically significant (Table 2). In other words, these results indicate that the obtained frequencies differ significantly from those that would be expected if all cell frequencies were equal in the population, thus establishing the goodness of fit of the responses collected.

**Association and Pattern**

After establishing the goodness of fit, the data is tested to analyze the nature of association between the two categorical variables taken for the study - type of school management and the perception towards the need for quality control mechanism and cross tabulated to understand the pattern of the responses.

**The Differences of Perception**

The differences of perception regarding the need for instituting a comprehensive quality control mechanism among the three major types of school management are evident
from the cross tabulation (Table 3). Around 68 percent of the head masters of public sector schools ‘disagree’ with the need for a quality control mechanism while the remaining 32 percent stay positive for the same where public schools account for around 62 percent of the total sample. The respondents from private aided management (14 percent) followed suit with their counterparts under public sector managements by largely disagreeing (69 percent) with the need and only 31 percent accept the proposal. It is interesting to note that private unaided managements (24 percent) expressed quite contrary preference to those of public and aided managements by strongly preferring (80 percent) the institution of quality control mechanism while only 20 percent disagree for that. On an aggregate of the total sample, about 57 percent were in ‘disagreement’ to the need whereas the remaining 43 percent ‘agree’ to the same. Thus a clear divide in preference for quality control mechanism is obvious among the different managements. The private unaided managements are more pro-active for the reform while the public sector and private aided managements are much cautious about the issue.

The chi square test results indicate a strong relationship between the type of school management and the need for quality control mechanism. A highly statistically significant $\chi^2$ value of 43.298 with the $p$ value of 0.000 (Table 4) implies that the preferences for incorporating quality control mechanism in school management vary with the type of school management in this sample. Thus the pattern observed from the cross-tabulation of the preferences is strongly supported by the significant chi square test results.

TABLE 3
Cross-Tabulation

<table>
<thead>
<tr>
<th>Type of School Management</th>
<th>Need for Quality Control Mechanism</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector</td>
<td>Count</td>
<td>52</td>
<td>28</td>
<td>20</td>
<td>17</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>39.8</td>
<td>26.8</td>
<td>23.6</td>
<td>26.8</td>
<td>117.0</td>
</tr>
<tr>
<td></td>
<td>Percent within School Management</td>
<td>44.4</td>
<td>23.9</td>
<td>17.1</td>
<td>14.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>27.7</td>
<td>14.9</td>
<td>10.6</td>
<td>9.0</td>
<td>62.2</td>
</tr>
<tr>
<td>Private Aided</td>
<td>Count</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>8.9</td>
<td>5.9</td>
<td>5.3</td>
<td>5.9</td>
<td>26.0</td>
</tr>
<tr>
<td></td>
<td>Percent within School Management</td>
<td>38.5</td>
<td>30.8</td>
<td>23.1</td>
<td>7.7</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>5.3</td>
<td>4.3</td>
<td>3.2</td>
<td>1.1</td>
<td>13.8</td>
</tr>
<tr>
<td>Private Unaided</td>
<td>Count</td>
<td>2</td>
<td>7</td>
<td>12</td>
<td>24</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>15.3</td>
<td>10.3</td>
<td>9.1</td>
<td>10.3</td>
<td>45.0</td>
</tr>
<tr>
<td></td>
<td>Percent within School Management</td>
<td>4.4</td>
<td>15.6</td>
<td>26.7</td>
<td>53.3</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>1.1</td>
<td>3.7</td>
<td>6.4</td>
<td>12.8</td>
<td>23.9</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>64</td>
<td>43</td>
<td>38</td>
<td>43</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>64.0</td>
<td>43.0</td>
<td>38.0</td>
<td>43.0</td>
<td>188.0</td>
</tr>
<tr>
<td></td>
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The chi square test results indicate a strong relationship between the type of school management and the need for quality control mechanism. A highly statistically significant $\chi^2$ value of 43.298 with the $p$ value of 0.000 (Table 4) implies that the preferences for incorporating quality control mechanism in school management vary with the type of school management in this sample. Thus the pattern observed from the cross-tabulation of the preferences is strongly supported by the significant chi square test results.

TABLE 4
Chi-Square Tests Results

<table>
<thead>
<tr>
<th>Value df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>43.298</td>
</tr>
</tbody>
</table>

Strength of Association
Cramer's V is used as post-test tool to determine strength of association after chi-square has determined significance. The statistically significant chi-square value (43.298) implies that there is a significant relationship between the two categorical variables – type of school management and the preferences for quality control mechanism. But it does not say just how significant and important this relationship is. Cramer's V value facilitates this additional information. In the present sample, the Cramer's V value is 0.339 and p = .000 (Table 5) which indicates a strong association. Thus the preferences are statistically strongly associated with the type of school management.

| TABLE 5 |
| Symmetric Measures |
| --- | --- | --- |
| Value | Approx. Sig. |
| Cramer's V | .339 | .000 |
| N of Valid Cases | 188 |

CONCLUSIONS OF THE STUDY
The results establish the difference of preferences among different types of school management. As the statistical analysis supports the relationship as well as the strength of association between the type of management and the preferences, it can be concluded that the respondents widely differs with each other on preference for instituting a quality control mechanism in school management. The public sector and private aided schools exhibit more or less similar tendency as three-fourth of each group disagree with the need while a four-fifths of the private unaided managements positively confirmed with the need for a comprehensive quality control mechanism incorporated into the school management system. The positive inclination of private unaided managements and the reluctance of the public and aided managements towards a comprehensive quality control mechanism confirm the empirical findings of the past research that the students of the public sector schools lag considerably behind their counterparts from the private unaided schools in test scores. The educational administrators may take effort to improve the quality and efficiency of the school system at secondary level by undertaking reforms in school management.

REFERENCES


