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PRODUCTIVITY ANALYSIS OF ELEMENTARY EDUCATION IN INDIA: A CONTEMPORARY ISSUE

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Abstract
As a need of the hour, India has made huge advancements in the Education sector and the Union Budget makes an attempt to broaden the education standards in the country every year. In absolute terms, the increase in expenditure on education in India during the 67 years of independence is very impressive. But, it is a common refrain among employers in India that the majority of graduates are not 'employable' due to the lack of skills commensurate with their paper qualifications. The weak correlation between years of education and actual knowledge is even more pronounced at the primary schooling level. However, while India has made considerable progress in improving Elementary education when measured by the quality of schooling inputs including student enrolment and retention, the progress on learning outcomes has been minimal. Annual Status of Education Reports regularly highlighted the fact that learning outcomes were stagnant and more recently worsening. This widening gap between financial allocations and outcomes does raise some important governance questions. It is therefore an urgent priority for primary education policy in India to improve the quality of education measured not just in terms of inputs and student enrolment or retention, but also in terms of learning outcomes. Thus, this paper has made an attempt to study the efficiency and effectiveness in elementary education considering that resources are usually limited, while needs for such resources are often limitless. The study concludes that the concepts of efficiency and effectiveness should be applied in order to monitor and evaluate how well resources are used in an educational system and to prioritise the use of such resources.

Key Words: Elementary Education, Student Enrolment, Student Retention, Learning Outcomes, Efficiency and Effectiveness in Education.

Introduction

Education is the fourth necessity for man after food, clothing and shelter, in today's competitive world. Education is indeed a powerful tool to combat the cut-throat competition that man is faced with at every junctures in life. Education is the single most important instrument for social and economic transformation. A well educated population, adequately equipped with knowledge and skill is not only essential to support economic growth, but is also a precondition for growth to be inclusive since it is the educated and skilled person who can stand to benefit most from the employment opportunities which growth will provide.

Education is definitely one of the most important factors in the development of a country because it develops skills, increases efficiency of labour force, helps to incorporate newer technology in the productive process. Besides, it creates a milieu within which talented individuals like academicians, scientists, technicians, and knowledgeable persons feel comfortable and inducible for coming from outside the country. India, being an important emerging country of the world economy with high level of growth for a long period of time, the importance of education is indeed rising with time for the reason that sustainability of this growth is only feasible if the supply of skilled and efficient people having adequate knowledge and competency in handling newer technology remains unabated. Other than education there is no way which can maintain this supply unabated. Thus it is not very difficult to understand that why education has been identified as a critical input in the literature and theories of modern economic development and growth. It is considered to be a key instrument of national development and individual welfare. The fact that more than one lakh students are going abroad for higher studies at the cost of more than $1.5 billion a year (Raju,K.D.2006),substantiate that aspect of realization that education is an indispensable asset of every individual also. India has emerged as a global leader and a strong nation. Education is the key to the task of nation building as well as to provide requisite knowledge and skills required for sustained growth of the economy and to ensure overall progress. According to the Census Data 2011, India is overpopulated with a population of 121,01,93,422 which means India today is a powerhouse of talent of 121,01,93,422 plus. In order to convert the population from a challenge to an opportunity, the area that requires immediate attention is education. 25% of Indian population is still illiterate and out of the total population of 1.21 billion in India, 220 million children go to school.

India, with more than a billion residents, has the second largest education system in the world (after China), and India has the image of youthful engine of economic growth because experts estimated that 32% of its current population is under the age of 15.India is undergoing a historic demographic transition where the majority of the population is below the age of 25. It is increasingly being recognised that education will play a major role in the country for reaping the expected 'demographic dividend' over the next decades. In this background, the 11th and 12th Plan periods corresponding to the last 10years (2002–12) have witnessed a concerted effort to provide a thrust towards the universalisation of elementary education and

signifcantly expanding access to secondary and higher education. This has mainly come about through the intervention of the central government in elementary education, which was traditionally in the domain of the states, having significant implications for the structure of financing the education sector in general, and the fiscal responsibilities between the centre and the states in particular. Post-independent India inherited a system of education which was characterised by large scale inter and intra-regional imbalances. The country's literacy rate in 1947 was only 14 per cent and female literacy was very badly low at 8 per cent. As per recently concluded census 2011, Literacy rate in India has significantly increased from 18.33% in the year 1951 to 74.04% in the year 2011. More women literates added in the recent decade compared to men literates, so gap between men literates and women literates also reduced from 24.82 in 1991 to16.68 in the year 2011.

It is after the 1991 reforms that India entered into a different phase all together. Privatization and globalization helped to bring world class education to India. Today universities across the world are joining hands to open their branches in India. But counter to this image of India where many urban based citizens work in some of the best technology-centred jobs in the world, males in India complete just 2.9 years of schooling on average, females just 1.8 years. And for the small proportion who does persist through primary and secondary schooling, the quality of instruction varies widely, depending on the region of the country and whether one is enrolled in a state-supported public school or a fee-based private school.

Objectives of the study

- **i)** To examine the current status of Elementary education in India.
- **ii)** To understand the need of Productivity analysis in this education sector to face the recent challenges associated with this.

Research Methodology

This is a descriptive research study based on secondary data. Data have been collected through various websites and publications of recent research papers available in different websites.

The Education System in India

Education in India is the joint responsibility of the central and state governments, and educational rights are provided for within the Constitution (GOI, 1949). Following the recommendations of the National Policy on Education (NPE) 1968 and subsequently by NPE 1986, attempts are being made to adopt a common structure of schooling across the country. The general pattern adopted at the national level, commonly known as the 10+2+3 pattern, envisages a broad-based general education for all pupils during the first ten years of schooling. Diversification of courses takes place only at the higher secondary level (grades 11 and 12), and is reliant on students successfully completing the secondary school examination at the end of grade 10. Successful completion of the public examination at the end of grade 12 qualifies the student for university entry. Of these twelve years of schooling, the first eight years are termed ‘elementary education’, and this should broadly correspond to the compulsory education period of 6-14 years of age.

Constitutional Structure of Education System in India

Until the late 1970s, school education had been on the State List of the Indian Constitution, which meant that States had the final say in the management of their respective education systems. However, in 1976, education was transferred to the Concurrent list through a constitutional amendment, the objective being to promote meaningful educational partnerships between the Central and State Governments. Today, the Central Government makes the national policies and the States have to follow it. The National Policy on Education (NPE) was formulated in 1968 and the National Policy Resolution of 1986, which was later, updated in 1992, where specific responsibilities for organizing, implementing and financing its proposals were assigned. The Central Government as well as the State Governments is empowered to make necessary legislation to control and administer the education system in the country.

Constitutional Recognition of Elementary Education

Long before the formulation of the United Nations Educational, Scientific and Cultural Organization(UNESCO)resolutions and the emergence of interest by international agencies like the World Bank, the United Nations Children's Fund (UNICEF) and the United Nations Development Programme (UNDP), the Government of India had recognized the importance of elementary education and had made a resolve in the Constitution of India as long ago as in 1950: ‘The State shall endeavour to provide within a period of 10 years from the commencement of the Constitution for free and compulsory education for all children until they complete the age of 14years (Article 45).’ By resolving to provide elementary education ’free’ to all, the Government of India has also implicitly recognized the ’public good’ and ’merit good’ nature of elementary education. Elementary education is, in fact, recognized by many as a 'pure public good' as the benefits from elementary education are

immense; they are not confined to the children who go to the school; and the rest of the society also benefits considerably. In fact, the neighbourhood benefits of elementary education are believed to outweigh the direct private benefits. Besides, it is a 'merit good,' as the state knows better than individuals availing the benefits of education.

Economic Return to Elementary Education

Not only the economic returns to elementary education estimated to be positive and high, but they are also estimated to be higher than alternative rates of return. And returns to primary education are higher than returns to secondary and higher education. Returns to primary education of weaker sections (e.g., backward castes and girls) are also found to be sizeable and, in fact, higher than returns to their respective counterparts (viz., non-backward castes and boys), and returns to upper-primary level of education are higher in rural than in urban areas (Tilak 1987).The contribution of education is not restricted to economic returns only. Its significant effect on reduction in poverty and improvement in income distribution, improvement in health and nutritional status of the population, its negative relationship with fertility and population growth and positive association with adoption of family planning methods, and its positive relationship with general social, political and economic development and overall quality of life are well recognized. All this has contributed to the rapid growth of education in India, though it is still not adequate.

National policies on Elementary Education

Although several committees and commissions were appointed from time to time to deal with various issues, the education policy was shaped primarily by the Kothari Commission and the National Education Policy. The National Policy on Education (NPE) 1968 and the NPE 1986 have laid special emphasis on the fulfilment of the Constitutional Directive of Universalization of elementary education (UEE). After the UPA (United Progressive Alliance) government came into power in 2004, the Central Advisory Board of Education (CABE) Committee was appointed to investigate the universalization of secondary education. While these committees had much to say about structure of the education system and priorities within it, their recommendations regarding the level of education finance were somewhat similar. In 1966, the Kothari Commission had recommended that the public expenditure on education should reach the level of 6 per cent of GNP by 1986. Subsequently, in 1996, the Saikia Committee examined the financial, among other, implications of the proposal to make free and compulsory education a fundamental right. It reiterated the need for an expenditure of 6 per cent of GNP on education with 50per cent of it earmarked for primary education. In 1999, an Expert Group headed by Tapas Majumdar, made estimates for additional fund requirements for UEE – it was in the range of 1,37,000 crores over the following 10 years (GOI, 1999).National Common Minimum Programme and CABE committee also had similar recommendations. However, policy statements and implementation do not always go together. Actual expenditures in the education sector have fallen far short of these targets. These recommendations repeatedly emphasize the need for higher investment in education and the importance of different levels of government in its financing.

Five Year Plans have repeatedly promised to take the nation towards achieving this goal. Elementary education was also included in the National Programme of Minimum Needs' in the Five Year Plans, and this inclusion has significant implications for allocation of resources. This was expected to ensure favourable treatment in the allocation of resources ,and to protect it from reallocation of approved outlays away from elementary education. Education was also made an important component of the 'national human development initiative' in the Union Budget of 1999-2000(Tilak 1999a).Thus, much before the Jomtien Conference (1990) and the adoption of the World Declaration on education for all (EFA) at the same conference, the Government of India had repeated its resolve to universalize elementary education in the country as early as possible, and also to increase the public funding of education to at least 6per cent of national income, so that education, elementary education in particular, does not suffer from paucity of financial resources.

Recent budget allocation for Education

Education plays an important role in shaping the future of any country. India has made huge advancements in the Education sector and as per the statistics; every year the Union Budget makes an attempt to broaden the education standards in the country. As per the 2011, Union Budget allocation, an amount of Rs.52,057 crores has been set aside for Education with an increase of 24% over the preceding year. In the Union Budget 2011, conventional programs like Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shiksha Abhiyan have been given importance as they have helped to make remarkable inroads in education for all children. Sarva Shiksha Abhiyan is intended for the enlargement and growth of primary education. The aim of this flagship program was to attain universalization of primary schooling by 2010. The present rules of Sarva Shiksha Abhiyan have been modified recently by putting into practice the “Right of Children to free and Compulsory Education” which has been enforced from April 1, 2010. As for the year 2011-2012, the Union budget ministry has put forwarded an amount of Rs 21,000 crore, which is almost 40% higher than the last year.

Education Budget 2012-13 A total of Rs 61,427 crore had been allocated for the education sector in Budget 2012-13, with Rs 15,458 crore earmarked for higher education and Rs 45,969 crore for school education. The education sector has attracted a near 19 per cent hike in its budgetary allocation, and it is schools and flagship projects that continue to retain top focus. A 22 per cent hike had been announced for the Sarva Shiksha Abhiyan, while that for the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is 29 per cent. Both programmes focus on increasing enrolments in schools. From the Rs 61,427 crore allocated, Rs 25,555 crore had been sanctioned for the SSA, which operates as a financing channel for RTE. SSA allocation, in fact, is up by nearly 40 per cent from the Rs 15,000 crore it was given in 2010-11.

Education Budget 2013-14 With a focus on capacity building and job-led education, finance minister P. Chidambaram proposed an allocation of Rs.65,869 crore for the education sector in the Union budget for 2013-14, an increase of a little over 7% from that for the last fiscal year .Of the total education outlay, the flagship scheme Sarva Shiksha Abhiyan (SSA) was allocated Rs.27,258 crore for implementing the Right to Education Act that promises education to all children in the 6-14 age group.

Education Budget 2014-15 The union budget 2014-15 presented in the parliament on July 10 has given Rs 83,771 crore for HRD ministry (an increase of 12.3% from last year), The Sarva Shiksha Abhiyan got an allocation of Rs 28,635 crore, an increase of Rs 1,000 crore, Rashtriya Madhyamik Shiksha Abhiyan got Rs 4,966 crore, while the Mid-Day Meal Programme has been allocated Rs 13,215 crore. A Rs 500 crore teachers training program named after BHU founder and legendary educationist Pandit Madan Mohan Malviya, Rs 100 crore Communication Linked Interface for Cultivating Knowledge (CLICK) and online courses for spreading virtual classroom, Rs.30 crore for School Assessment Programme are some other highlights.

Illusory Growth

In absolute terms, the increase in expenditure on education in India during the 67 years of independence is very impressive, the educational expenditure increased in current prices from Rs 55 crore in 1947 to Rs 83,771 crore as per the latest available statistics- a phenomenal 1523 times increase. But this impressive growth is belittled by (a) rapid growth in population, (b) phenomenal increase in student numbers, and above all, (c) escalation in prices. The real increase in expenditure per student has been rather very modest. An analysis of intra-sectoral allocation of resources in India during the plan period shows a lopsided emphasis on not only elementary education, but also on other layers of education. It is a common refrain among employers in India that the majority of graduates are not 'employable' due to a lack of skills commensurate with their paper qualifications. The weak correlation between years of education and actual knowledge is even more pronounced at the primary schooling level. However, while India has made considerable progress in improving primary education when measured by the quality of schooling inputs (including student enrolment and retention), the progress on learning outcomes has been minimal. It is therefore an urgent priority for primary education policy in India to improve the quality of education measured not just in terms of inputs and student enrolment/retention, but also in terms of learning outcomes. The past decade has also seen a growing body of high-quality empirical research on Primary education in India that can inform primary education policy in a meaningful way. However, the current policy framework for primary education in India (including those in the Right to Education Act) does not reflect the insights from this body of research.

Defining 'Productivity' in Education sector

At its most basic level, productivity is a measure of output per unit of input (Griliches, 1987). This is a technical but general definition which can be applied in a variety of different contexts. From the public's perspective, productivity of education sector can be thought of as how much individuals and society are getting from the education sector, given the resources they put in. Productivity also reflects whether the system is "wasteful" in some sense. The issue of productivity in education has become more important as the sector has grown and education becomes the norm rather than the exception for all Indians. Unfortunately, defining and measuring productivity in the education sector has proven to be a difficult task. These problems are often cited as reasons to ignore the issue productivity in education.

The concept of productivity has two dimensions: efficiency and effectiveness. **Efficiency** refers to the level and quality of service which is obtained from the given amount of resources (Epstein, 1992). If the sector can produce a greater quantity and/or higher quality of output with the same amount of resources, it has improved its efficiency. **Effectiveness** relates to the extent to which the provider meets the needs and demands of stakeholders. In the education sector, these stakeholders include students, faculty, local communities, state governments, industry, and the nation-at-large. Using this broader definition of productivity, it becomes clear that productivity improvement is not synonymous with "cost-cutting." Instead, productivity improvement is a multi-faceted concept, inextricably linked with the goals and missions of the institution or system under consideration.

Increasing facilities (Inputs) in Elementary Education Sector

According to ASER-2014, school facilities showing improvement over time.15,206 Govt. schools with primary sections were visited as part of the ASER-2014 survey. Some findings of this survey are as follows:

Table 1: Showing comparative analysis of input facilities in elementary education sector

Input Facilities	2010	2014
% of schools complying with pupil-teacher ratio norms	38.9	49.3
% of schools complying with classroom-teacher ratio norms	76.2	72.8
Mid-day meal being served on the day of visit	84.6	85.1
% of schools having boundary wall	51	58.8
% of schools having play-ground	62	65.3
% of small primary schools (with enrolment less than 60)	27.3	36
% of schools with library books	62.6	78.1
% of schools with computers	15.8	19.6
% of schools with drinking water available	72.7	75.6
% of schools with useable toilets	47.2	65.2
% of schools with useable girls' toilets	32.9	55.7

Source: ASER- 2014 survey

Decreasing Learning level (outputs) in Elementary education sector:

Table 2: Showing learning level of All India (rural) Govt. school children

Year	Percentage of children in std.II who can not even recognise
2010	13.4
2011	19.9
2012	24.8
2013	28.5
2014	32.5

Source:ASER -2014 survey

The above table shows that the learning level of rural govt. school children is decreasing over time. The percentage of children in std.II who can not even recognise the letters were 13.4 in 2010,which is increased to 32.5% in 2014.

Table:3 Showing percentage of children who can do subtraction in ASER -2014 survey

Grade	Percentage of children who can do subtraction
Std.III	25.3
Std.IV	40.2
Std.V	50.5

Source: ASER-2014 survey

Table 3 shows half of all children in Std.V have not yet learned basic skills that they should have learned by Std.II.

Table: 4 Showing percentage of children who can do division in ASER -2014 survey

Grade	Percentage of children who can do division
Std.V	26.1
Std.VI	32.2
Std.VIII	44.1

Source: ASER-2014 survey

The above table shows close to half of all children will finish eight years of schooling but still not have learned basic skills in arithmetic.

Findings of 10th ASER-2014 Survey

NGO Pratham on 13th jan,2015 released 10th Annual Status of Education Report (ASER 2014).The report noted that overall situation with basic reading continues to be extremely disheartening in India. The report is based on the survey in 577

districts and 16,497 villages covering 3,41,070 households and about 5,69,229 children in the age group 3-16.The report reveals that for six years in row school enrolment in India was 96% or above for the 6-14 age group and India is close to universal enrolment in this age group. Nationally, the percentage of children out of school in the age group 6-14 remains at 3.3%.This is the same as was in 2013.The main findings of the Report are:

- The 25% of class VIII student can not read a class II level text.
- Only one-fourth of all children in class III can read a class II text fluently in 2014.
- The proportion of class V children who can at least read class II level text has raised from 46.8% in 2012 to 47% in 2013 and to 48.1% in 2014.
- 38.7% of class III children can read at least a class I level text in 2012, which is slightly higher at 40.2% in 2014.
- 30.8% of children of age group 6-14 in rural India were enrolled in private schools in 2014, which has increased in number slightly from 29% in 2013.
- However , mathematics continued to be a serious and major source of concern. All India (rural) figures for basic arithmetics have remained virtually unchanged over the last few years.
- 26.3% of class III students could do two digit subtractions in 2012 and this number is at 25.3% in 2014.
- For class V students, the ability to do division has increased slightly from 24.8% in 2012 to 26.1% in 2014.
- The percentage of children in class II who still can not recognise numbers up to nine has increased from 11.3% in 2009 to 19.5% in 2014.

Conclusion

Educational institutions worldwide are increasingly the subject of analysis aimed at defining, measuring and improving efficiency. The above analysis of budgetary allocations, expenditures and learning level of children suggests that there is no correlation between overall expenditure and learning outcomes. ASER reports regularly highlighted the fact that learning outcomes were stagnant and more recently worsening. This widening gap between financial allocations and outcomes does raise some important governance questions. Thus, measuring efficiency and effectiveness in education is of great relevance considering that resources are usually limited, while needs for such resources are often limitless. At the same time, like all other services, it is important to do some form of cost-benefit analysis, and be able to compare this over time within a particular member State, or between different member States. The underlying objective of making best use of resources devoted to education sector requires a drive to maximise both the efficiency and effectiveness quotients for this pursuit. The concepts of efficiency and effectiveness should be applied in order to monitor and evaluate how well resources are used in an educational system and to prioritise the use of such resources. This descriptive research study explored that productivity analysis in elementary education sector is the need of the hour in India. The typical inputs in the education production function are the characteristics of the teaching and learning environment, while outputs are generally defined in terms of students' test scores. It follows a strong assumption that technical relationships are of central importance in the educational process. If such relationships exist and can be quantified, policy can be constructed so as to maximize some preferred conceptual outcome.

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