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REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

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APPENDIX/ANNEXURE

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CONTRIBUTIONS TO BOOKS
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MEASURING EDUCATIONAL EFFICIENCY AND THE DETERMINANTS OF EFFICIENCY OF THE STUDENTS IN SALEM DISTRICT, TAMILNADU

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ABSTRACT

The present study intends to measure the educational efficiency among the college going students. For which, educational input fed to the students and the outcome derived from the students were contemplated in this study. Many qualitative variables were also incorporated with the aim to scale accurately the educational input and output. Further, the present study takes a modest attempt to determine the factors which are influencing the student's educational efficiency. In this connection, many requisite indicators were specified in the model. In this regard, the Ordinary Least Square (OLS) Regression model was employed. It was found from the analysis that, quality of the college, sex of the student, father's education, native of the student, expected rate of return were emerged as significant variables affecting the efficiency of the students.

KEYWORDS

Educational Input, Educational Output and Efficiency.

INTRODUCTION

India produces over three million graduates every year. Yet different sectors in the new economy face shortage of competent manpower. The reason behind this is Indian higher education system is not producing the quality graduates in sufficient numbers needed for the top-end of the knowledge economy. The educational outcomes are a key index of merit of a higher education system and students themselves. Apart from the innate ability there are umpteen numbers of factors determining the student's efficiency. It starts from the point of individual characteristics, family background to the college's quality.

A study in OECD countries on the role of deviations in students' characteristics to their performance showed that students whose parents (especially mothers) have high school certificates or higher qualifications perform better than their peers. Family affluence is also a very decisive factor, although students in less affluent families in some OECD countries perform better than the OECD average. The study itself discussed many other differences in student characteristics and background that may contribute to differences in student performance such as gender, family socioeconomic status, culture, language spoken at home and family structure (OECD, 2001).

There are several studies that discussed peer effects on student achievement. The results indicate that peer achievements have a positive effect on achievement growth. On the other hand, the variance in their achievements appears to have no effect (Hanushek et al., 2001). Another study (Hoxby, 2000) that used two methods in looking at the effects of peers with different gender and racial groups in Texan primary schools also found that students are affected by the performance of their peers. For instance, the study found evidence that both male and female test scores in math and reading improve by increasing the share of females in a class. On the other hand, the effects of an increase in a racial group in a class are not as convincing as gender with only one or two race groups being significant, and peers in the same racial group experience the effects highest. Moreover, this study also found that racial origin of peer achievement is not important, except within racial groups.

The direct link between Information Communication Technology (ICT) use and students' performance was in the heart of an extensive literature during the last two decades. Several studies have tried to explain the role and the added value of those technologies on classrooms and on student's performances. The first body of the literature explored the impact of computers uses. Since the Internet revolution, there's a shift in the literature that focuses more on the impact of online activities: use of Internet, use of educative online platforms, digital devices, use of blogs and wikis. Fuchs and Woessman (2004), used international data from the Programme for International Student Assessment (PISA). They show that while the bivariate correlation between the availability of ICTs and students' performance is strongly and significantly positive, the correlation becomes small and insignificant when other student environment characteristics are taken into consideration.

The effect of the rate of students framing is also subject of controversies. In certain studies, one finds that, when it is weak, it can have a positive effect on the students' performance. Thus, starting from the results in mathematics in 148 school institutions in England, Raudenbush and Willms (1995) showed that a reduction in this ratio from 25 to 16 would increase the students' performance. On the other hand, by using data collected in England between 1992 and 1996, Bradley and Taylor (1998) found that the number of the students by teacher does not have an effect on the students' performance. However, they obtained a significant but weak impact when they studied the relationship between the variation of this number between 1992 and 1998 and the variation of the performances on the examinations during the same period.

In recent empirical studies conducted in the United States, Rivkin et al. (2005) find that teachers in their first or second year of teaching are associated with lower students' performance in Texas, but teacher education and certification have no systematic relationship with performance. Jepsen and Rivkin (2002) obtain similar results using grade-level data from California. Preliminary results from Clotfelter et al. (2003) suggest positive impacts of teacher experience and teacher license test scores on student achievement in North Carolina. Betts et al. (2003) find mixed results for teacher characteristics using detailed individual-level data in the San Diego Unified School District.

Other studies stated that teachers are the most important influence on student progress, even more important than socioeconomic status and school location (Archer, 1999 and Armentano, 2003) that found that teacher qualifications are more important than class size. One study (Darling-Hammond, 2000) concluded that measures of teacher preparation and certification are by far the strongest correlates of student achievement in reading and mathematics.

Students' performance is a puzzling question in education science and economics. The general approach followed by economics is to suppose a model of added value based on the educational production function. This methodology consists of evaluating the effect of the educational inputs (characteristics and attitudes of the teachers, physical resources committed in the universities, the teaching organization, the rate of students framing, etc.) on the students' performance by controlling other inputs (socio-economic origin, characteristics and attitudes of the students) (Hanusek, 1996, Jaag, 2006; Lazear, 2001; Krueger, 1999, etc).

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Apart from these factors, there are ample of factors say educational expenditure, expected rate of return, demand for educated youth in the near future, physique of the student, personal effort, consistent motivation, number of graduates in the family etc., also strongly influence the efficiency of the students. Therefore, the present work has taken an attempt to measure the students' efficiency and the determinants of efficiency of the students by incorporating the above said factors.

EFFICIENCY IN EDUCATIONAL SYSTEM

The conventional economic approach to the study of education is as similar to economic production. In economic production, given production objectives, prices, and technology, inputs are transformed into desired outputs. To describe an educational production function, it is therefore necessary to define and measure the inputs, outputs and the process by which the inputs are transformed into outputs. In very general terms, it is commonly recognized that educational outputs are functions of a number of types of inputs. The earliest frame works for educational production function with categories of inputs, which include student ability, family background and peer and school inputs was proposed by Eric Hanushek (1979).

$$Y = (I, St, F, Sc, P) \qquad\qquad ……….. (1)$$

Where,

Y	= Outputs of education (all outcome such as learning outcomes, desirable changes in student attitudes and behavior)
I	= Student innate ability
St	= Characteristics of the student
F	= Family background inputs
Sc	= School inputs including teachers
P	= Characteristics of the peer group

The equation states that educational outputs are the results of interplay of many factors.

Efficiency is not the same thing as productivity. Efficiency refers to a comparison of inputs and their related outputs. A more efficient system obtains more output for a given set of resource inputs, or achieves comparable levels of output for fewer inputs, other things being equal. Daniel Rogers, defined efficiency as either achieving the greatest amount of output from a given set of inputs or achieving a specified amount of outputs utilizing a minimum quantity of inputs. Productivity on the other hand, is the amount of output per unit of input. Blaug and Woodhall, Vaizey, et.al distinguished between internal measurement and external measurement of productivity. Internal measurements are concerned with ratios and external measurements with real resources and costs measured by units determined for the economy in general. Similarly, index of efficiency measures the ratio of educational outputs to the corresponding index of educational expenditure in real terms. The index of educational variables, which are selected both from qualitative and quantitative aspects of all levels of education. According to Blaug, the efficiency can be defined at one point in time, in the context of the existing level of technical knowledge, whereas productivity is almost always measured between two calendar dates.

While using the educational production framework, it can be distinguished into several concepts of efficiency in education to which cost analysis can be applied. These are internal efficiency external efficiency, technical efficiency and economic efficiency. The internal efficiency of education compares the costs of education to the outputs or reflects within education, such as the acquisition of cognitive and non-cognitive skills. Education production is said to be more internally efficient when it can produce more desired outputs given the same resources. The external efficiency of education compares the costs of education to the benefits of education that are external to educational production, such as higher productivity and earnings in post schooling work. It provides a measure of the profitability of investing in education. Whereas external and internal efficiency are defined with respect to the boundary of educational production, technical efficiency and economic efficiency concern the very nature of educational production.

MEASURING EFFICIENCY

In the simplest case, where a process or organizational unit or decision making unit (DMU) has a single input and single output, the efficiency is defined, as in engineering, as

Efficiency = Output / Input

However, more typically, processes, organizational units and even students have multiple incommensurable inputs and outputs, making it difficult to make comparisons among units or to arrive at an overall measure or performance or efficiency of managerial and operating practices that can then be used for ranking purposes. This feature leads to the problem of aggregation, particularly so in regard to organizations in the not – for – profit and social sectors, where it is difficult to estimate or quantify in monetary terms the cost of inputs and the price of outputs.

In the case of units in the education and health sectors, it becomes extremely difficult to agree on what the monetary value is corresponding to various kinds of surgery or health care provided by a hospital or the outputs of an academic institution in terms of degrees or research papers or patents or student's quality. Moreover, in many situations, there is lack of knowledge of the exact relationship in terms of mathematical formulas among the various inputs and outputs. In other words, the production function is not known. The Data Envelopment Analysis (DEA) approach aims to overcome these complexities the idea of aggregation of inputs and outputs by using weightage.

AGGREGATION OF INPUTS AND OUTPUTS

Multiple inputs and outputs are to be linearly aggregated using weights. Hence the virtual input of a decision making unit (DMU) is defined as the weighted sum of inputs and virtual output as the weighted sum of outputs. Given these virtual inputs and outputs, the efficiency of the DMU in converting the inputs to outputs can be defined as the ratio of virtual output to virtual input. Hence,

$$Efficiency = \frac{Virtual\,output}{Virtual\,input} \qquad …………..(2)$$

In other words,

$$Efficiency = \frac{Weighted\,Sum\,of\,Outputs}{Weighted\,Sum\,of\,inputs} \qquad ………………… (3)$$

Using the usual notation, this can be written in algebraic terms as:

Efficiency of unit $$j = \frac{u_1 y_{1j} + u_2 y_{2j} + ...}{v_1 x_{1j} + v_2 x_{2j} + ...} \qquad ………………… (4)$$

Where,

u_1 = weight given to output 1

y_{ij} = amount of output 1 from unit j

v_1 = weight given to input 1

x_{1j} = amount of input 1 to unit j

In this mode only, the current study follows to measure the efficiency of the students. It has been discussed briefly in the successive parts.

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OBJECTIVES OF THE STUDY

The present study intends to deal the following objectives.

➢ To assess the level of efficiency and efficiency inequality among students.

➢ To ascertain the determinants of efficiency difference among students.

METHODOLOGY OF THE STUDY

SAMPLING DESIGN

To accomplish the above said objectives, the present study depends on the primary data only. The primary sample study was restricted to Salem district, which consists of six taluks. As far as the higher educational institutions are concerned, all type of colleges are available viz arts and science, engineering, medical, nursing, management, catering and hotel management, dental, law and so on. As many as 40 colleges are running with various streams of education. Salem district was selected for the present study, the rationale behind this is, this district is one of the emerging regions in education wise at Tamilnadu. Further, this is the last resort to get quality higher education for the students residing in the nearby districts say Dharmapuri, Krishnagiri, Karur, Namakkal, etc. There are umpteen students selecting this junction to pursue their higher education from the surrounding districts. Moreover, various types of colleges in terms of quality can be found easily. For instance, world class institutions say Sona College of engineering are running and worst performing colleges which are crying for basic amenities are also being operated. However, the students are demanding such type of colleges as well. Hence, the researcher selected this field to study the objectives.

Sample size was restricted to 514 students due to the time and resource constraint. Sample colleges are Government Arts College, Salem; Government College of Engineering, Salem; Mohan Kumaramangalam Government Medical College, Salem; Periyar University College of Arts and Science (PRUCAS), Mettur Dam; Sri Sarada college for Women, Salem; Sona College of Technology, Salem; Vinayaka Mission's Kirupananda Variyar Medical College, Salem; Vysya College, Salem and The Central Law College, Salem. From the selection of sample colleges to the selection of sample students, multi stage sampling technique was adopted. Sample students were divided proportionately by respective of their stream of education say General education and Professional education. Other kinds of education were ignored in this study, due to the low strength in terms of colleges and students. This study has taken only under graduate students, as sample (i.e., those who are studying colleges after completing the higher secondary school exam). More specifically, students those who are studying in the fall semester were only included in the study. The reason behind this is, it is assumed that they only have good college experience and know well about the quality of their institutions than other students. Moreover, they only the best opt to make study regarding the efficiency.

TECHNIQUES OF DATA COLLECTION

To collect the primary data, well structured and pre-tested interview schedule was framed and language Tamil was used. The schedule consists of information on demographic and socio-economic profile as well as data on family size, wealth of the family, Student's and parent's educational aspiration, student's studying habit, previous course's mark details, family's investment behavior, accessibility and availability of colleges, educational loans and its interest rates loss of income due to the present study, expected returns from the study, expected non-pecuniary benefits and so on. Apart from this, to assess the quality of higher educational institution, students were asked umpteen questions under various categories viz., college's standard, teachers' ability and activities and other sort of facilities provided in the college.

MEASUREMENT OF STUDENT'S EFFICIENCY

To avoid the aggregation problem in measuring the efficiency of the students, weightage system was used to the input and output variables. The below table explains the educational inputs and outputs taken to measurement and its given weightage.

TABLE 1: INPUT AND OUTPUT PARAMETERS AND THEIR WEIGHTAGES

Input Parameters	Weightage	Output Parameters	Weightage
College Quality	3	Marks obtained	3
Available time to study per day	2	English Fluency	2
Daily studying hours	2	Technical proficiency	2
Person in home to clear doubts	2	Research publication	2
Extra coaching class	2	Awards & honours	2
Advanced educational facilities	2	Self-reliance	2
Investment behavior of the family	2	Certificate / Diploma courses	2
Physique of the student	2	Articulation skill	2
Living arrangement (Separated or grouped)	2	Written skill	2
Parents education	1	Creation & innovation	2
Number of graduates in the family	1	Problem handling skill	1
Parents aspiration	1	Debate skill	1
Students aspiration	1	Sports and culture	1
Constant motivation	1	Discipline	1
Loan facility	1	Leadership	1
Basic facilities	1	Extra-curricular activities	1
Conducive climate	1	Participation in seminar / workshop	1

While the weightage was assigned to the input and output variables, its educational importance and theoretical background were pondered carefully. Weightages were given in the range between 1 and 3. The highly important factors on the student efficiency were assigned as 3, moderate influential factors and low impact factors were given weightage by 2 and 1 respectively. In this connection, in the input side college quality was given as high weightage by 3. Following this, availability of time to study, hours of studying daily, person in home to clear doubts, extra-coaching class, advanced educational facilities, investment behaviour of the family, physique of the student and living style i.e., whether the student is separated or grouped were put under single category as moderately useful factors and given weightage was 2. The remaining variables such as parents education, number of graduates in the family, parents and students higher educational aspiration, constant motivation, loan facility, basic facilities to engage study and conducive climate to study were categorized as least important factors and the weightage was 1.

As far as the outcome side is considered, average marks obtained so far in the course was given more weightage (3) rather than other things. Next to this, English fluency, technical proficiency, awards and honours received, publication in journals, self-reliance certificate, Diploma courses studied during the course, articulation skill, written skill and creative and innovative skills were taken as moderately influencing factor and the weightage given was 2. And problem handling skill, debating skill, sports and cultural activities, discipline, leadership quality, extra-curricular activities and participation in seminar / workshop / conference were taken as least important variables and the given weightage was 1.

By using above given weightage to the input and output factors, the student's efficiency formula was framed.

$$\text{Student's Efficiency (SE)} = \frac{\text{Weighted sum of educational outputs}}{\text{Weighted sum of educational inputs}} \qquad \text{...........................} (5)$$

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Specifically, Student's Efficiency =

$$\frac{\begin{array}{l} 3\text{(Marks)} + 2\text{ (English Fluency)} + 2\text{(Technical proficiency)} + 2\text{ (Research publication} + 2\text{(Awards\&honours)} + \\ 2\text{(Self-reliance)} + 2\text{(Certificate / Diploma courses)} + 2\text{(Articulation skill)} + 2\text{(Written skill)} + \\ 2\text{ (Creation \& innovation)} + 1\text{(Problem handling)} + 1\text{(Debate skill)} + 1\text{ (Sports and culture)} + 1\text{(Discipline)} + \\ 1\text{(Leadership)} + 1\text{(Extra-curricular)} + 1\text{ (Participation in seminar workship)}.\end{array}}{\begin{array}{l} 3\text{(College quality)} + 2\text{(Available time to study per day)} + 2\text{ (Daily studying hours)} + \\ 2\text{(Person in home to clear doubts)} + 2\text{(Extra coaching class)} + 2\text{(Advanced educational facilities)} + \\ 2\text{(Investment behaviour of the family)} + 2\text{(Physique of the student)} + 2\text{(Living style)} + \\ 1\text{ (Parents education)} + 1\text{(Number of graduates in the family)} + 1\text{(Parents aspiration)} + 1\text{(Students aspiration)} + \\ 1\text{(Constant motivation)} + 1\text{ (Loan facility)} + 1\text{(Basic facilities)} + 1\text{ (Conducive climate)}.\end{array}}$$

...............(6)

EDUCATIONAL EFFICIENCY INEQUALITY AMONG STUDENTS

With the aim to check whether there is any difference in the educational efficiency among students studying in colleges which have various status in terms of its quality. In this connection, the statistical tool one sample 't' statistic was employed and the result is given below.

TABLE 2: 't' – STATISTICS

Variable	Mean	Standard Deviation	Standard Error Mean
Students' Efficiency	24.34	5.00	0.22
Variable	**t – Value**	**Mean Difference**	**Significance (Two tailed)**
Students' Efficiency	110.34	24.34	0.000

Source: computed from the primary data.

The above table elucidates the result of one sample 't' statistic. It was an attempt taken to check whether there is any significant difference in the mean of students' efficiency. Hence it was hypothesized that there is no mean difference in the efficiency of students and the one sample 't' test was employed to check. It is revealed from the result that, there is a significant mean difference in the efficiency of the students. The mean difference is 24.34, standard deviation is 5.00, the 't' value is 110.34, the standard error of the mean is 0.22 and the result is significant at 1 per cent level of significance. Hence it can be interpreted from the result that there is a difference in the mean of students' efficiency, and it is proved through the statistical test.

SPECIFICATION OF MODEL – DETERMINANTS OF STUDENT'S EFFICIENCY

Further, an attempt was taken to find out the determinants of efficiency inequality among the students. The endogenous factor used to run the regression analysis was student's efficiency which was derived by employing the above framed equation. The exogenous variables were selected with the help of theoretical support and the previous works. The student's efficiency function was erected as following.

$$SE = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots\ldots\ldots + \beta_k X_{ki} + U_i \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (7)$$

Where,

SE = Students' efficiency,

B_0 = Constant,

X_{1i} to X_{ki} explains the explanatory variables used in the study,

β_1 to β_k explains the co-efficient value of respective exogenous variables.

U_i = error term

The exogenous variables selected for analyzing the students efficiency is listed in the below table with the expected sign and the explanatory variables mentioned in the above equation has been elucidated in the same.

FACTORS INFLUENCING THE STUDENT EFFICIENCY

In the present study, it is intend to explore the factors which are responsible for efficiency difference among the students. The model covered the independent variables such as quality of the college where the students pursuing, sex of the student, parental education, number of graduates in the family, educational aspiration of parents and student, motivation, native of the respondent, previous course achievement, educational expenditure per year, employability in future, expected rate of return from the higher educational investment, conducive climate to study, physique of the student, living arrangements of the students, family source to clear subject doubts, extra coaching class and advanced educational facilities available to the student. The dependent variable is the student's efficiency which was measured by the aforementioned formula.

TABLE 3: FACTORS DETERMINING THE STUDENTS EFFICIENCY

Code of the Variable	Variable Type	Expansion of the code	Coefficient	t value	Expected sign
Constant		27.819	+		
CQ	Q	Weighted College Quality (Calculated through the students' perception)	-0.793	-23.929*	+
SX	D	Sex of the student - Male = 1; Female = 0	-0.059	-1.812***	+
FE	Q	Fathers education in years	0.120	2.790*	+
ME	Q	Mothers education in years	-0.012	-0.290	+
NG	Q	Number of graduates in the family	-0.03	-0.094	+
PEA	D	Parent's educational aspiration on student's higher education - High = 1; Low=0	-0.045	-1.436	+
SEA	D	Student's educational aspiration on higher education High = 1; Low=0	0.012	0.377	+
MT	D	Continuous motivation - Yes = 1; No=0	0.034	1.121	+
SH	Q	Studying hours daily	0.062	1.894	+
CM	D	Community of the student - Forward Caste = 1; Otherwise = 0			+
NT	D	Native of the respondent - Town / City = 1; Village = 0	0.068	2.167**	+
PA	D	Previous course achievement - Yes = 1; No=0	0.144	4.815*	+
EXP	Q	Educational Expenditure per year	0.136	4.159	-
DEF	D	Demand for graduates in future - High = 1; Low = 0	0.049	1.644	+
MEC	Q	Expected rate of return from Higher educational investment	0.117	3.514*	+
CCS	D	Having conducive climate to study - Yes = 1; No = 0	-0.017	-0.489	+
PHY	D	Physique of the student - Normal = 1; Handicapped = 0	0.019	0.635	+
SEP	D	Living arrangements - With family support = 1; Seperated = 0	0.028	0.888	+
DBT	D	Family source to clear subject - Yes = 1; No = 0	0.012	0.366	-
EXC	D	Extra Coaching class - Yes = 1; No = 0	0.008	0.256	+
AF	D	Advanced educational facilities - Yes = 1; No= 0	0.000	-0.004	+
R² value = 0.58					

Source: computed from the primary data.

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Q = Quantitative variable and D = Dummy variable

* Significant at 1 per cent level, ** Significant at 5 per cent level, *** Significant at 10 per cent level

The regression results reveal that the variables say quality of the college, sex of the student, native, fathers' education, studying hours daily, previous course achievement, educational expenditure and expected rate of return are having statistically significant relationship with the dependent variable named the student's efficiency. The R^2 value states that, the 58 per cent of the explanatory variables explained the dependent variable. While consider the relationship between the endogenous and exogenous variables, it is found that native of the student, fathers education, students higher educational aspiration, continuous motivation, studying hours daily, previous course achievements, educational expenditure, employability in future expected rate of return, physique of the student, living arrangements, having person to explain the subject doubts and special coaching class, are directly related. It is also inferred from this result that, independent variables such as quality of the college, sex, mothers' education, number of graduate in the family, parent's educational aspiration and the conducive climate to study are negatively connected to the dependent variable. The justification for some factors influencing the student's efficiency is given below.

DISCUSSION OF RESULT

Whether the quality of the college affects the efficiency of the students is an important query taken into account for studying the determinants of student's efficiency. It is often expected that the students who are studying in a high quality college would be more efficient when compared to the others. Therefore, an attempt was made to test the impact of the quality of the college on the student's efficiency. As expected, quality of the college affected the efficiency of the students at 1 per cent level of significance. But unexpectedly, it had emerged as negatively related significant factor in affecting the student's efficiency. This was due to the reason that the term used here was not educational production but educational efficiency. Hence, those who gave larger amount of output by utilizing limited input could be said to be efficient. In this study, the efficiency concept was only explored. It could be interpreted from the table that those who studied in a less quality college were more efficient rather than the students who pursued their study in high quality colleges. The rationale behind this was, less quality college students met only scarce resources from their colleges and home; hence they were urged to expose hard work so that they were producing output as much as they could do by eating limited input. On the contrary, students who studied quality colleges enjoyed many resources both from their colleges and from their family side. But, they could not give output as much as they get input. Hence, as far as the efficiency is concerned, less quality college students were highly efficient than the ones in the high quality colleges. For this reason, it could not be concluded that the students who were studying in quality colleges were not producing anything, but it should be interpreted that they needed more input to transform the large amount of output.

Sex of the student emerged as a significant variable at 10 per cent level of significance. This variable was selected to construct the model, since a father, think tank of a family, much preferred his son to study in a quality college and investing much on his son for the sake of getting efficiency rather than concentrating on their daughters. Hence, it was expected that male students would be more efficient than the female students. As expected, it came out as a significant variable, but the result revealed that female students are more efficient than the male students. It was due to the reason that because of some prejudices, girls used to meet only scarce resources, but they were ready to work hard and the girls were not vulnerable to time wasting habits when compared to the boys. Due to these reasons, girl students have been achieving more than the boys in the public examinations. It was evident that the position of state first in school education and University first rank were got by girls in the recent past. Therefore, it is proved from this study that girl students are more efficient than the boys.

It was found from the result that father's education emerged as positively influencing factor on the student's efficiency at 1 per cent level of significance. It was unforeseen that mother's education did not influence on the student's efficiency. It could be interpreted that father, the think tank of a family, he took all decisions regarding the child what to do and how to do and led by proper guidance to become efficient than the mother in a family. It is noted that most of the households are male headed households and always the decision taken by the head is the final one.

Daily studying hours did not play a significant role on the student's efficiency in the present study. Though the result showed the positive relationship between the studying hours and efficiency, it could not come out as significant. It might be interpreted that how long the student was studying daily did not matter, but how depth he was studying mattered. It is noted that some students study for a short time, but they could understand well. And some spend many hours to study, their efficiency is low and this may be due to low concentration on the studies or their low capacity. It indicates that the students need not spend more time on studying; it is enough to take less time with much concentration.

It was hypothesized that student's previous course achievement would influence the student's efficiency. In order to test this hypothesis, the researcher also introduced the previous course's achievement as one of the factors which might determine the efficiency of the student. The regression result supported the hypothesis and it positively emerged at 1 per cent level of significance on the efficiency of the student. It might be due to the reason of two way causal relationships. However, it was proved that previous course's achievement was one of the dominant factors affecting the student's efficiency. Since it made the student to be a self-inspirator and induces more to do further achievement.

It was expected that expenditure made on education would influence more on the efficiency of the students. Since higher education students need to purchase costly books, and learn computer courses and other things, they require large amount of money. Therefore, educational expenditure per year incurred by the student was added as an important variable affecting the student's efficiency. On the contrary to the expectation, this variable could not emerge as a significant one. It was due to the reason that getting knowledge and becoming efficient was not a matter of spending large amount, but a matter of capacity and innate ability. It is worthy to mention that some efficient students are getting knowledge from the experts at free of cost, experts are also not reluctant to transfer knowledge to the students for money matters. Further, Government college students are studying with the subsidy given by Government and in many places free education is available to the students who had scored high marks in the previous course. Hence, educational expenditure was not a determining factor for the student's efficiency.

Expected rate of return from the higher educational investment influenced positively at 1 per cent level of significance on student's efficiency. This might be interpreted as those who would expect more return from the investment, they tried hard and took pain to enhance their efficiency. It was due to the reason that some students were pursuing their higher education by borrowing loans or credit from local money lenders. So automatically they would expect more. Keeping the borrowings in mind, they expected more return and worked more efficiently than others.

CONCLUSION

It is observed from the above analysis that, many industrial needs from the higher education students are not fulfilled satisfactorily. It is noted that, efficiency of the students are self-evaluated. Some of the total sample students themselves are confessing that they are lack in English fluency, technical proficiency, articulation skill, written sills, self-reliance, problem handling capacity, debating power, leadership quality and so on. It is hard to find that where the mistakes happen whether in the supply side or demand side. It cannot be said that, all the students are being lack in these skills. Hence the difference of efficiency arises between the students. It is resulted from the analysis that, factors such as quality of the college, gender, location, father's education, studying hours daily, previous course achievement, educational expenditure and expected rate of return from the educational investment are influencing more the student's efficiency rather than other variables.

REFERENCES

1. Ananth, S. (2008), "**Overcoming Mediocrity in Higher Education: The Need for Productively Linked Benefits**," *University News*, Vol. 46, No. 46, pp.123-127.
2. Archer, J. (1999), "**Sanders 101**", *Education Week*, Vol.17, No.23, pp.24.
3. Armentano, D. (2003), "**Let's Re-think Class-size Amendment**". *Cato Institute*, Washington D.C. *http://www.cato.org/cgi-bin/scripts/printtech.cgi/dailys/08*-10-03.html.
4. Azim, S. (2007), "**Higher Education in Rural India**", *University News,* Vol. 45, No. 45, pp. 4-7.

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5.   Betts, J., Zau, A., and Rice, L. (2003), "**Determinants of student achievement: new evidences from San Diego**", *Public Policy Institute of California*, San Francisco.
6.   Clotfelter, C.T., Ladd, H.F., and Vigdor, J.L. (2003), "**Teacher sorting, teacher shopping, and the assessment of teacher effectiveness**", *Unpublished manuscript*, Duke University, Durham.
7.   Darling, H.L., (2000), "**Teacher Quality and Student Achievement: A Review of State Policy Evidence**", *Educational Policy Analysis Archives*, Vol. 8, No. 1.
8.   Ernest, T. P. (1984), "**College Environmental Influences on Student's Educational Aspiration**", *Journal of Higher Education*, Vol. 55, No. 6, pp. 751-771.
9.   Fuchs, T., and Woessmann, L. (2004), "**Computers and Student Learning: Bivariate and Multivariate Evidence on the Availability and Use of Computers at Home and at School**", CESifo Working Paper, 1321.
10. Hanushek, E. (1973), "**Regional Differences in the Structure of Earnings**", *The Review of Economics and Statistics*, Vol. 55, No. 2, pp.204-213.
11. Hanushek, E. (1996), "**School Resources and Student Performance**", Does money matter? The effect of school resources on student achievement and adult success, Edited by G. Burtless, Brookings Institution, Washington, D.C..
12. Hanushek, E., John F.K., Jacob M. M, and Steven G. R. (2001), "**Does Peer Ability Affect Student Achievement?**" *National Bureau of Economic Research*, Cambridge, NBER Working Paper No. 8502.
13. Hoxby, C. (2000). "**Peer Effects in the Classroom: Learning from Gender and Race Variation**", *National Bureau of Economic Research*, Cambridge, NBER Working Paper No. 7867, pp.1-54.
14. Jaag, C. (2006), "**A Simple Model of Educational Production**". *Munich Personal RePEc Archive*, MPRA Paper No. 338.
15. JandhyalaTilak, B. G. (2005), "**Higher Education in Trishanku: Hanging Between State and Market**", *Economic and Political Weekly*, Vol. 40, No. 37, pp. 4029-4037.
16. Jepsen, C., and Rivkin, S. (2002), "**What is the trade-off between smaller classes and teacher quality?**", *National Bureau of Economic Research*, Cambridge, NBER Working Paper No. 9205.
17. Krueger, A.B. (1999), "Experimental estimates of educational production functions", Quarterly Journal of Economics, Vol. 114 No.2, pp. 497–532.
18. Kurhade, M. S. (2008), "**A Pathway to Quality Education**", *University News,* Vol. 46, No. 46, pp. 48-49.
19. Latchanna, G., and Hussein, J.O.(2007), "**Economics of Education**", *Discovery Publishing House,* New Delhi, pp.79-84.
20. Lazear, E. P. (2001), "**Educational production**", Quarterly Journal of Economics, Vol. 66, No. 3, pp. 777–803.
21. Manjunath, B. R. (2007), "**Paradoxes in Indian Higher Education"**, *University News*, Vol. 45, No. 43, pp. 1-3.
22. OECD. (2001), "Knowledge and Skills for Life: First Results from the OECD Programme for International Student Assessment (PISA).
23. Raudenbush, S.W., and Willms, D.J. (1995), "**The Estimation of School Effects**", *Journal of Educational and Behavioral Statistics*, Vol. 20, No. 4, pp. 307-336.
24. Rivkin, S. G., E. A. Hanushek, and Kain, J. F. (2005), "**Teachers, schools and academic achievement**", *Econometrica*, Vol. 73, No. 2, pp. 417–458.
25. Sewell, W. H., and Shah, V.P. (1968), "**Social Class, Parental Encouragement and Educational Aspirations**", *American Journal of Sociology*, Vol.73, pp. 559-572.
26. Shah, A. M. (2005), "**Higher Education and Research – Roots of Mediocrity**", *Economic and Political Weekly*, Vol. 40, No. 22, pp. 2234-2242.

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