Transition within Indian Education system: a holistic study

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Abstract

Education forms a foundation not just for an Individual but for society as well. It is responsible for overall growth and development of society in general. Education is like a thread, when woven it represents the country and its growth. It is the quality of the thread that defines how well the country grows. The importance of education has evolved over time. Indian education system is improving at a slow rate. The area of improvement in our education system is a multidimensional concept. It is a combination of government, system, and citizen of people that are responsible for the condition and growth of education system. Research has been done to analyse the major trends of Indian education system, factors affecting the transition from 10th and 12th standard, what factors affect an individual's level of education and how government contributed towards Indian education system. This paper gives an essence of Indian Education System. Secondary sources have been used for analysing the major trends and examine the correlation wherever required. They are also used for analysing he factors affecting the transition from 10th and 12th standard and government contribution. However, Primary data has been used for analysing the factors affecting and Individuals level of education.It is a perfect blend of both primary and secondary research which gives us a deeper insight of Indian education System. It could be concluded that, government expenditure on education has an important role to play in transition from 10th standard whereas in case of 12th standard it's the PTR which has a major role. Coming to Individual's level of education, it is significantly affected by number of siblings, Educational expenditure, Familial support for education and choice of education, Procurement of study material and Educational decision based on peer group/market demand/ awareness about available options.

Key Words: Education, Transition, Pass out, Long term growth.

1. Introduction

Education plays a vital role in bringing success to life. It gives us the opportunity to become a productive part of a civilized society by acquiring all the indispensable skills. We find out how to meet challenges and overcome obstacles. We learn how to turn out to be an integrated individuality and maintain the perpetuation of our culture. People learn fundamental norms, rules, regulations, and values of society through education. Moreover, high quality education enables us to guide us a flourishing life, enhances our intelligence, skills, knowledge, and brings positive changes in our existence. Education lays the foundation stone for our future. An illiterate person can find it very complex to cope with some aspects of life. Education expands our vision and creates awareness. It helps us develop a disciplined life and provides us with better earning opportunities. It enables us to recognize the world beyond our own surroundings. Education is also a prerequisite of the prosperity and modernization of any country (Barlow, 2017).

Therefore we can say that, education is a crucial element of sustainable development. The research title includes the term "transition", transition is referred to the crossing/passing of two most important stages in the educational life of a student, i.e., 10th and 12th standard. In general, there are many transitions in educational life of an individual. It is subjective from person to person.

It is a perfect blend of both primary and secondary research which gives us a deeper insight of Indian education System. It analysis the major trends along with correlation wherever required, factors affecting an individual's level of education and government contribution to Indian Education System.

Literature Review

Various studies have been conducted in the area of education both at national and international level. Following are some the contribution of various scholars.

How education plays a role on worker's productivity and firm's total factor productivity is studied by Belton M Fleisher, Yifan Hu and Seonghoon Kim in there paper on "Economic Transition, Higher education and worker productivity in China". The study was done in china in the year 2010. Firm level panel data has been used to study the role of human capital in production. Major findings of the are, first, estimated MP are much higher than the wages. Second, the difference in MP of highly educated and less educated is much higher than the wage difference. And finally the study was unable to find significant difference in TFP of the firm due to difference in education level of workers.

Chandan Roy (Kaliyaganj College, 2011) studied the dropout problem of primary education in Uttar Dinajpur, west Bengal, India. Chandan tries to study the reasons of dropout in primary Education and a block level analysis of dropout scenario in Dinajpur. The study ends with the conclusion that there is a need to have right policies and control to stop the increasing issue of dropout. The issue is more severe to the certain sections of the society like SC and Muslims. There is a need to make the learning process more joyful and smooth.

Low number of educational institutes, teachers, etc has always been an area of improvement for Indian education system. Apart from quantity, quality is another parameter which needs to be worked upon. Ms. Rajni Bhalla, asst. prof. in Commerce Panjab University Constituent College has made an attempt to study the Indian education system (higher Education) and the need of continuous improvement in the quality of higher education through the role of Total Quality Management (TQM). The paper speaks about the importance of improving the quality in higher education. Indian education system has shown huge growth. For further improvement in education system it has now become important to follow TQM in Indian education system.

The strength and power of higher education can never be understated. Obadya Ray Shaguri (EAN World Congress Scholar 2013) in his/her study on the "Higher Education in India: Access, Equity, Quality" discusses the major trends of Indian education system, role played by both government and private sector of education in India and issues faced in accessing the Higher Education. And concludes the study with measure that could be adopted to improve the present scenario and now technology had brought tremendous changes in the education sector. The paper ends with a forecast on equity in higher education and how we are close to becoming and healthy economy

Education not just solves one sole purpose but many in one go. Gender inequality is one characteristic that has been prevailing in India. How education can act as a remedy for the same is researched by Ritika Sharma in her paper "Gender Inequality in India: Causes & Remedies" in year 2015. The solution such situation required both men and women to put in effort in reducing/ eliminating it. Despite so many laws, women still continue to live a dependent life physiologically and emotionally. India has walked mile to reduce gender inequality but there are more to cover. Ritika mentioned various remedies to overcome the problem of gender inequality. The root to all solution is education.

Higher education sector of India has shown a remarkable growth since Independence. Younis Ahmad Sheikh (PhD Research Scholar, MPISSR, Ujjain) in 2017, has attempted to study Higher Education in India via the challenges and opportunities in the same. Through the growth pattern of higher education in India he was able to come across various challenges along with opportunities. The paper suggests some ways of improving System of Higher Education. The paper is concluded on the point to emphasise the importance of human capital and how it can be available to its full potential via recognising the opportunities. Some of the challenges suggest an urgent relook at the financial resources, infrastructure, quality standards and so on. A similar study on the Current Scenario of Higher Education in India is done by Nitesh Sanklecha (Research Scholar, RTM Nagpur University,Nagpur) in 2017 studies the problem and challenges faced by higher education. The major problems as per Nitish are low rates of enrolment and ensuring the quality and relevance of education. The major challenges faced are low quality of teaching, supply and demand gap, uneven growth and access to opportunities and constraints on research & innovation.

1.1 Relevance & Objectives

Education is an area which is extensively worked upon. However, some research gaps were, analysing the factors affecting the pass out rate (10th & 12th class) and what the government is

assisting to promote education is deviated from the factors affecting people's level of education through primary data collection. Another research gap is determining the factors affecting the level of education through primary research.

 i. To analyse major trends, viz., literacy rate, GER, PTR, Government expenditure on education and number of females enrolled per hundred male

 ii. To analyse the factors affecting transition within Indian Education

 iii. To primarily analyse the association of level of education with factors, viz., educational expenditure, procurement of study material, number of siblings and educational decision based on peer group/market demand/awareness of viable options

 iv. To study the role of Government in Indian Education Sector

1.2 Methodology

So far as first objective is concerned it analysis the major education system. These concepts are literacy rate, number of females enrolled per 100 male, GER (Gross Enrolment Ratio), PTR (Pupil Teacher ratio), government expenditure and the basic structure of India educational system has been explained along with the trend analysis. Secondary data has been used for the same. Karl Pearson correlation has been used wherever required.

Coming to the second objective, it studies how the pass out rate of 10th standard and 12th standard is associated and related to/with the number of teachers and number of schools at secondary education, government expenditure and PTR at secondary level of education for the period 2009 to 2013. To study the same 'chi square' has been used. The data has been procured from the government site of Ministry of Human Resource Development. The analysis has been performed in SPSS. Correlation and two tail regression has been performed for the mentioned variables.

The third objective which studies the factors affecting level of education is done using primary data. Convenience sampling has been performed to procure data through questionnaire. Data from a sample of 246 has been collected from Delhi NCR region. Likert scale has been mainly used for preparing the questionnaire. Therefore Ordinal regression has been performed to study the association between the independent variables and dependent variable.

Independent variables	Dependent variables
1. Educational expenditure 2. Number of siblings 3. Familial support for education and choice of education 4. Procurement of study material 5. Educational decision based on peer group/market demand/ awareness about available options	Level of education

For the final objective, role of government has been studies. This objective mainly helps in the interpreting the practical implication of the second and the third objective. It tries to explain what the current government is focussing on in the area of education and based on the result of second and third object what else needs to be taken care of.

1.4. Limitations
    i.   Convenience Sampling is used due to lack of resources
    ii. Few factors have been considered while performing regression due to insufficient data

2. Data Analysis & Discussion

2.1. Major trends of Education System

What does one really mean by education or getting educated? Education is attending school and attaining degree(s) is a narrow definition. In a holistic way, education can be defined as a process of enlightening the realisation of essence of life. The aim behind getting educated should be spiritual growth and awakening along with economical growth. Actually crime rates and education are inversely proportional. Some of the most evil social exercises which are even followed today like, child marriage, female infanticide, dowry, etc., can be stopped only through proper education. Once people comprehend that this things are illegal and why they are illegal then undoubtedly this can be stopped. They must be spiritually awakened for this. This is again possible only through education (Sudeshna Singh, 2018, Feb 10).

Education sectors of India had made tremendous growth since 1951. It is majorly categorised into 3 segments, viz., elementary, Secondary and Higher. Elementary includes both primary and upper primary level, secondary is a mix of secondary and senior secondary and finally, higher education represent all levels of education beyond secondary. elementary education is defined as education up to 8th class, secondary is defined up to 12th class and higher education includes under graduation, post graduation, PHD and Post Doc. Education system of a country can be assessed on various factors, viz.,
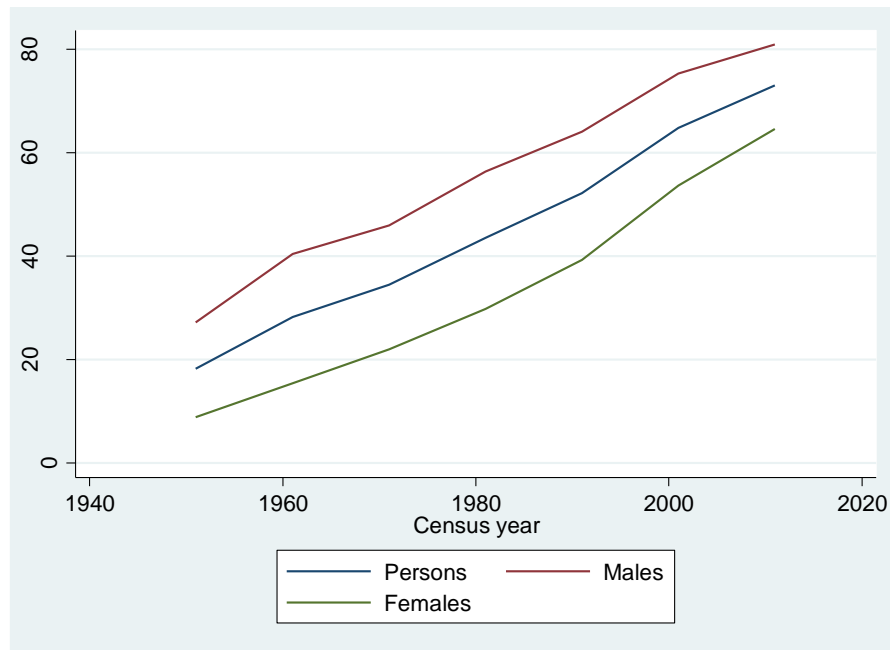
1. Literacy rate
2. Enrolment rate
3. Dropout rate
4. Pass-out rate

2.1.1. Literacy Rate

Literacy rate is one of the most commonly used parameter, but since it reflects the basic reading and writing capabilities it can only reflect the primary level of education in a more accurate way. Following figure shows the trend in literacy rate.

Fig-1: Literacy rate (1951-2011)

Source: Ministry of Human Resource Development

The vertical axis indicated the number of people literate and horizontal axis indicates years ranging from 1951 to 2011. There has been a consistent rise in the literacy rate of India. There are many reasons responsible for such trend. One of the major reasons is the change in the market demand. Earlier the focus was on the agriculture sector which is a labour (unskilled) intensive area but gradually there has been major growth in both industrial and service sector. Rise in literacy rate is due to spill over effects of other sectors.

2.1.2. GER- Gross enrolment ratio

UNESCO defined GRE as "Number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population, corresponding to the same level of education". A higher GER indicates a high degree of participation, irrespective of the age group of people. A high GER is a necessary but not a sufficient condition for improved education system. Enrolment is the first stage of acquiring the respective knowledge how ever getting enrolled do not indicate the if the person has passed that level of education or not. An area of concern here is that GER is inclusive of over-aged and under-aged students.

Following are trends in GER for elementary, secondary and Higher level of education from 2005-06 to 2015-16.

Both, in case of Secondary and Higher education, GER has shown a gradual rise whereas in contrast there is no fixed trend in case of elementary education. This indicated that both I case
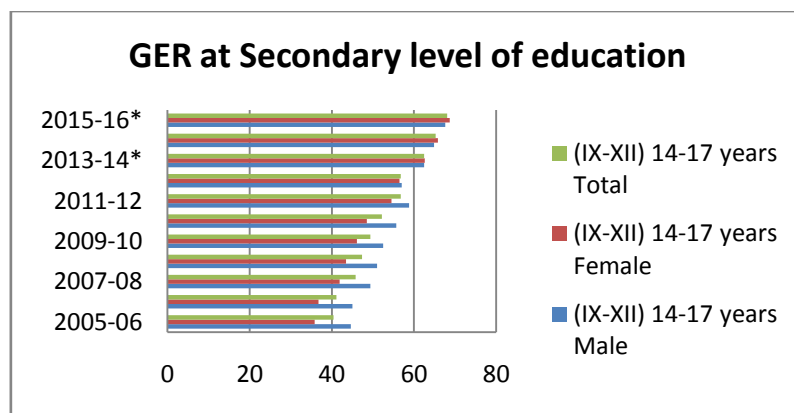
of Secondary and Higher education has higher number of people getting enrol over the respective period. This can be interpret as, an attempt of people to shift to skilled labour intensive occupation.

Fig-2: GER at Elementary level of education
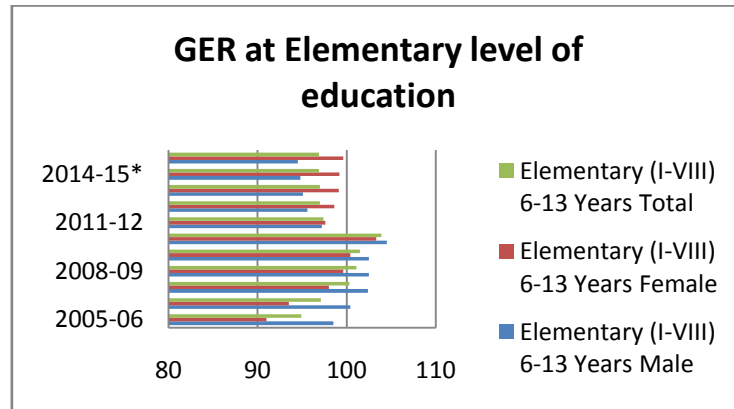
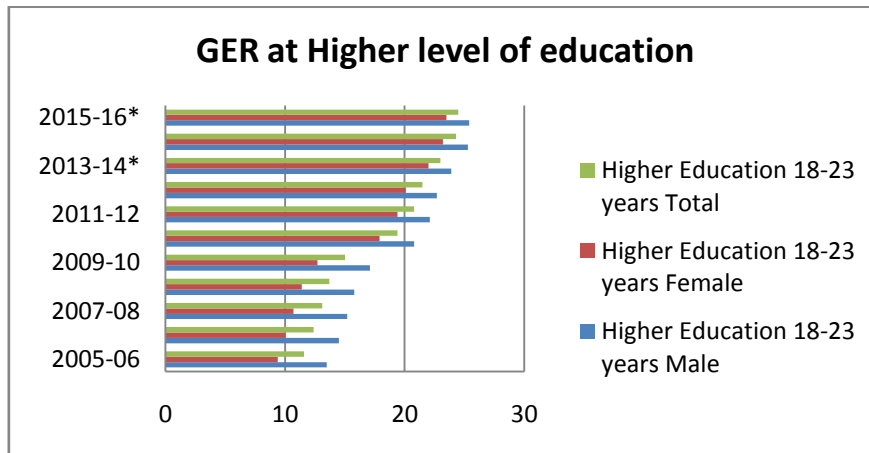Source: Ministry of Human Resource Development

Fig-3: GER at Secondary level of education

Source: Ministry of Human Resource Development

Fig-4: GER at Higher level of education

Source: Ministry of Human Resource Development

2.1.3. PTR

It is defined as the average number of students/pupils under each and every teacher for a given level of education. While studying the education area, PTR has a major role to play. In simple words it could be understood as on an average how any students are under one teacher. Here, teachers are n medium to impart knowledge and educates students. As shown in the following table, there are 24 students on average at primary level of education under every teacher which increases over the period of time and is 73 in 2011. For the initial years there exists a very high positive correlation between PTR and Literacy rate. However, for the later years it is comparatively less correlated. Therefore if there is important for the total numbers of teachers to rise with the rising number of students else the literacy rate might fall with rise in PTR.

Table-1: Data of Literacy rate & PTR of primary School

Census year	Literacy Rate	Primary School -PTR
1951	18.3	24
1961	28.3	36
1971	34.5	39
1981	43.6	38
1991	52.2	43
2001	64.8	43
2011	73	43

Source: Ministry of Human resource Development

Table-2: Correlation based on table 1

Year	Correlation b/w PTR(pri) & Literacy rate
1951-1971	0.98
1981-2011	0.77

Source: analysed by owner

2.1.4. Government expenditure on education

In a democratic country like India, government plays a major role, even in education sector. Government expenditure on education can be direct or indirect. Direct expenditure are expenditures such as on educational institutions whereas indirect expenditure are subsidies given to unprivileged section of society to opt for education. The government expenditure on education are given as percentage of GDP of the respective year. This indicated the priority given by government to the education sector over other sectors. The following figure shows the combined government expenditure on education to elementary, secondary and higher level of education. The following figure indicated a steep rise in government expenditure on education as a percentage of GDP however for the later years there are fluctuations in the trend.

Fig-5: Expenditure on Education by Education & other Departments as % of GDP
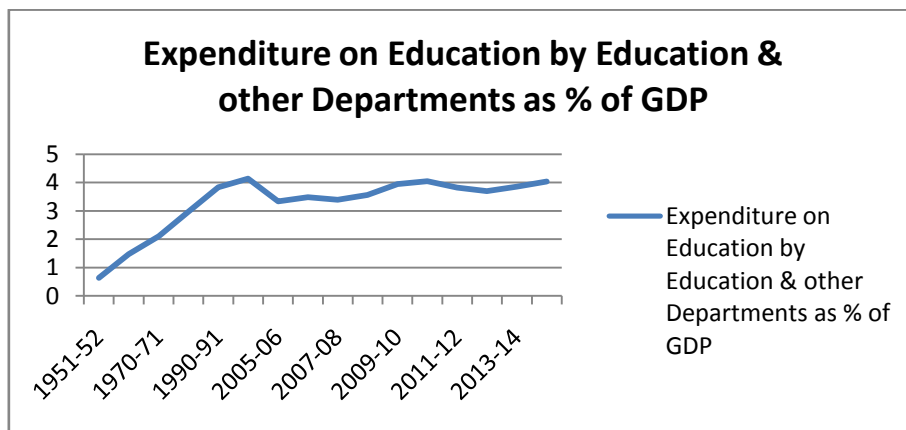
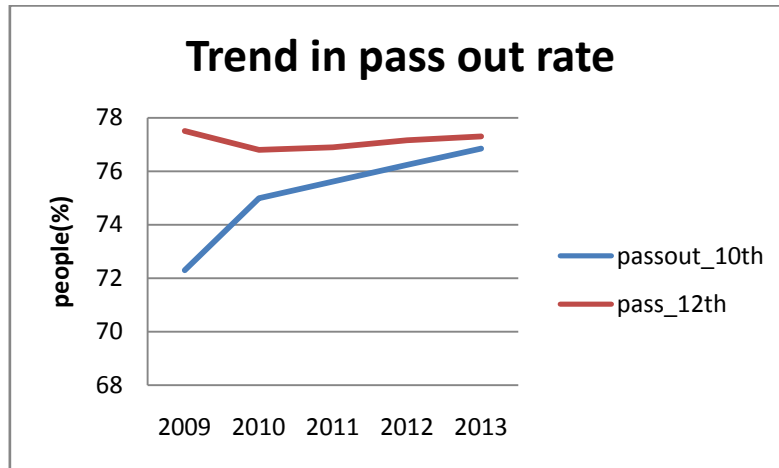

Source: Ministry of Human Resource Development

2.2. Factors affecting transition within education system

As mentioned in the first segment of the paper that GER is an important parameter to assess the Indian education system. It is a necessary condition but not sufficient. Pass out rate help in eliminating/reducing this limitation faced while assessing education system. Pass out rate is

defined as the percentage of people that pass a certain level of education out of the total enrolled in the given level of education.

Fig-6: Trend in Pass Out Rate

Source: Ministry of Human Resource Development

2.2.1. CASE1: pass out rate of 10th standard

10th standard is the first most crucial class in the life of student's life. It represents the first half of secondary education. The pass out rate of 10th standard is positively related to the number of schools and number of teachers in the secondary education. Government expenditure is another major component (explained in 1st segment) that provides support to education system of developing and democratic country of India. Government expenditure is highly positively related to the pass out rate of 10th standard. Pupil Teacher ratio is one of the factor that help in assessing the quality of education is negatively related with the pass out rate of 10th standard. Therefore a rise in number of secondary schools and teacher along with government support can improve the pass out rate of 10th standard.

Moreover, for independent variable as government expenditure and dependent variable as 10th pass out rate have statistically significant association.

Table-3: Analysing the Factors affecting the Pas Out rate of 10th Class

Correlations		passout_10th	no_schools	no_of teachers	Government_expenditure	PTR
passout_10th	Pearson Correlation	1	0.542	0.666	.930	-0.521
	Sig. (2-		0.345	0.220	0.022	0.368

	tailed)					
	N	5	5	5	5	5

Source: Appendix, Table 1

2.2.2. CASE 2: Pass out rate of 12th standard

Table-4: Analysing the factors affecting the Pass Out Rate of 12th Class

Correlations						
		pass_12th	no_schools	no_of teachers	Government_expenditure	PTR
pass_12th	Pearson Correlation	1	0.058	0.393	-0.10	.983**
	Sig. (2-tailed)		0.926	0.513	0.872	0.003
	N	5	5	5	5	5

Source: Appendix, table 2

12th standard can be defined as the end of secondary education. Pass out rate of 12th standard do not show any strong relation with the number of schools and teachers under secondary education. However PTR has an important role to play in the pass out rate of 12th standard, both variable reflect high significant statistically.

2.3. Factors influencing people's level of education

Primary research has been done to analyse the factors affecting people's level of education.. a sample of 246 people were collected from the Delhi NCR region through convenience sampling technique is performed. There are various factors that affect people's level of education. Following are the variables chosen for primary research.

1. Educational expenditure
2. Familial support
3. Procurement of study material
4. Educational decision

Ordinal regression in SPSS has been performed to analyse how the level of education is affected by:

- educational expenditure and financial constraint in education
- number of siblings
- peer group, market trends and awareness about the viable options
- procurement of study material via school/university, library and internet
- familial support for education and individual's choice of education

Table-5: Model Fitting Information

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	487.923			
Final	406.315	81.608	39	0.000

Source: Primary Data analysed in SPSS

Table -6: Goodness-of-Fit

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	1772.734	437	0.000
Deviance	404.353	437	0.867

Source: Primary Data Analysed in SPSS

Table-7: Model Testing

Model Testing			
	Independent variable	dependent variable	
Variables	procurement of study material		Significant
	familial support		Significant
	educational decision	Level of education	Significant
	number of siblings		Significant
	Educational Expenditure		Significant

Source: Primary Data analysed in SPSS

2.3.1. Assumption

1. Both dependent and independent variables are measured at ordinal level. Independent variables are categorized as follows:
   - Strongly agree-1
   - Agree – 2
   - Neutral – 3
   - Disagree – 4
   - Strongly disagree – 5

Independent variables are categorized as follows
   - 10th pass – 1
   - 12th pass – 2
   - Undergraduate – 3
   - Post graduate – 4

- PHD & Post Doc – 5

Gender is quantified as

- Female – 1
- Male - 0

2. No multi-collinearity prevails among the variables.
3. The assumption of proportional odds means that each independent variable has an identical effect at each cumulative split of the ordinal dependent variable. SPSS has been used for the same
4. Equal weights have been assigned to each element of a variable while clubbing the elements.

All the Independent variables are statistically significant on dependent variable. In simple words, procurement of study material, familial support, and educational decision based on peer group/self awareness/market demands, number of siblings and educational decisions are associated with the level of education attained by an individual.

2.4. Role of Government in Indian education

Getting enrolled in a school/college/university is the first step towards attaining education. When it comes to India, it is very high in gender as well as income inequality. Major section of Indian economy belongs to low income group, as a result they see education as a financial burden. This is because; parents are required to pay for tuition fee as well as the opportunity cost of education their children. People tend to have a myopic view for education. Therefore, it is important to bring changes in the mind set of people with regard to education. In the early years of life, children depend on their parents in almost all respect. It is important for parents and society to encourage their child/children for getting educated and acquiring the required skills. Government plays a supporting role here. Various schemes has been introduced to promote education and bridge the gaps between society of different socio economics strata (Education System in India; Govt's role, advantages, disadvantages, 2013)

In Indian education system, as discussed in the first segment of the discussion, secondary education include secondary plus senior secondary, i.e., from sixth to twelfth class. However the government schemes for secondary majorly focuses on the age group 14 to 18 years. The major purpose of these schemes is to prepare student for the higher education. Secondary education is important as it gives students the awareness of the feasible choices available for career. It is that stage when the student forms a perception of the line it would wish to pursue in future education/career. Government also recognised the excellent student through scholarships which acts an encouragement for awarded as well as competing students.

Indian education system has been criticised on its quality at various platforms. One of the areas of improvement in concern with the higher education is that many a time it lacks imparting the skills and practicality which is demanded by the job market. As a result, government has initiated various higher educational schemes with the objective to prepare the students/pupils for the job

market. These schemes majorly focus on developing the skills required for particular job profile (Education System in India; Govt's role, advantages, disadvantages, 2013).

Government has been anxious with widening and expanding the opportunity of young men and women to get professional and technical training, but it has sought to further this intent by the inappropriate means of subsidizing such education, largely in the form of making it available free or at a low price at governmentally operated schools (THE ROLE OF GOVERNMENT IN EDUCATION).

3. Conclusion

Education forms the foundation of an Individual as well as society. It is responsible for overall growth and development of society in general. Education is like a thread, when woven it represents the country and its growth. It is the quality of the thread that defines how well the country grows (Sharma)

Education is a flow concept; it requires a continuous addition to it. It is a gradual process of acquiring knowledge. The importance of education has evolved over time. Indian education system is on an upward trend however the marginal education is at a downward trend. The area of improvement in our education system is a multidimensional concept. It is a combination of government, system, and citizen of people that are responsible for the condition and growth of education system. The secondary data helped us get the insight of Indian educational system at the macro level. Whereas, the primary study gave insight at the micro level. Education in an economy goes with the saying "killing two birds with one stone". Education is a process/ medium goal of an individual as well as an economy in one go.

Therefore, education is definitely important in one`s life. It directs us to follow the right path at both personal and professional level. Education makes people competent of doing new interesting things that can go a long way to improving human living surroundings and standards. Our whole life is the process of learning and gaining new constructive knowledge. We should always remember that getting a good quality education is imperative in today`s society as it is a foundation of our flourishing future. Our education is really worth investment. Only if you believe and work hard you can achieve anything (Barlow, 2017).

4. Recommendation

- Pupil Teacher Ratio should be controlled in case of 10th class (at least) so as to have a better pass out rate of the same
- Some standard should be maintained for the procurement of study material at all levels of education
- Students should be given better guidance about the available options and the various paths that are possible to attain every option.
- Along with getting more individuals enrolled, government should also put efforts to increase pass out rate.

5. Scope of Future work

Recommendations and suggestion could have been framed with more preciseness and perfection if the sampling procedure would follow stratified sampling, where the population could have been stratified into 2 or more categorizes based on income. Doing so would give the suitable result for the respective strata. Since, India is a country known for its diversity. Therefore at this stage of development, requirement of each strata is different and a one policy fits all will be inefficient.

Moreover, if we expect the data availability to improve, pass out rate at every level of education will better determine the factors responsible for the same at different and each level of education.

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7. Appendix

TABLE 1: Passout Rate of 10th class and factors affecting it

year	passout_10th	no_schools	no_of teachers	Government_expenditure	PTR
2009	72.3	193900	2217000	1.250632	34.5
2010	75	203200	2099000	1.485178	32
2011	75.62	212400	2254000	1.941553	32.5
2012	76.24	341300	2656000	2.107385	33
2013	76.85	237100	2684000	2.237267	33.5

Source: Ministry of Human Resource Development

TABLE 2: Pass out rate 12th & factors affecting it

year	pass_12th	no_schools	no_of teachers	Government_expenditure	PTR
2009	77.5	193900	2217000	1.250632	34.5
2010	76.8	203200	2099000	1.485178	32
2011	76.9	212400	2254000	1.941553	32.5
2012	77.16	341300	2656000	2.107385	33
2013	77.3	237100	2684000	2.237267	33.5

Source: Ministry of Human Resource Development