

Evolving Minds and Nurturing Development - The Danish Way

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CHAPTER 1: BACKGROUND OF THE STUDY

Education is the fundamental right of every individual. Higher education (HE) is one of the important sources of creating, providing and transfer of knowledge in society. According to Chanakya the "*Education is the best friend. An educated person is respected everywhere. Education beats the beauty and youth.*" On the similar thoughts, the Danish education reformist, who is also a professor at the University of Southern Denmark, Prof. Peter Mortimore quotes "*Education is the process through which society transmits its accumulated values, knowledge, skills, attitudes and customs from one generation to another and influences how an individual think, feels and acts.*"

The National Education Policy 2019 envisions an India-centred education system that contributes directly to transforming our nation sustainably. Education is free and compulsory for students in the age group of six to fourteen years by law in India as a Fundamental Right in such a manner as the State may, by law, determine. However, HE is conditionally funded for some students. Education is supported by the tax reforms such as Education Cess in India.(MHRD, 2019) As education is a key priority in Denmark the main focus and priority is the high literacy rate of 99% in Denmark during the year 2007 to 2018, which is equal for both men as well as a woman in Denmark. Whereas in India, the literacy rate is 74.04% and gender parity exists. There are eight universities in Denmark, awarding bachelors, masters and doctoral degrees. Denmark education providers have a very low number of students per teacher that means teachers are not overburdened and can make proper use of their allocated time for research and intellectual development of students. Homeschooling is legal in Denmark. Thus, profound education policies and priorities have made the Danish education system as one of the top education systems in the world.

1.1 History of Higher Education System in India

India is a versatile country with diverse literature. It has a wide educational background since the era of *Guru-Shishya* culture till modern E-learning techniques. India has gone through so many changes in the educational area. The world is now aware of the fact that the oldest university of the world such as Takshashila and Nalanda, are of an Indian origin. These universities were established around 2700 years ago. Music, Ayurveda, Vedas, Philosophy, various wars related skills, commerce, astrology, etc. were the various subjects that were studied in these universities. British education policies made drastic changes in our ancient Indian education system. Over the past few decades, India has witnessed a massive growth in the number of higher and technical education institutions. Nowadays, higher academic education is the channel through which one can enter or get promoted in the government services or corporate sector.

1.2 History of Higher Education system in Denmark

Until the sixteenth century, education was the responsibility of the Roman Catholic Church. Denmark became the first European country to establish a national Lutheran Church, after the Protestant Reformation and it had a major historical influence on Danish education. State supremacy was thus accepted and promoted by the Lutherans, which resulted in an everlasting peace between the Church and the State. During the initial stages of the 20th Century, an education system was introduced in the cities and town which was known as *folkeskole* ("school of the people") at the elementary level school the *mellemsskole* ("middle school") at the middle level. The ancient Latin grammar schools were replaced by *real- skoler* (lower secondary schools). (State University, 2005)



	India	Denmark
Flag		
Area	3287263 sq km	42933 sq km
Population	121 crore	56L
currency	Indian rupee	Krone
Capital	New Delhi NRC	Copenhagen
Official language	22 official languages certified by the government	Danish
Literacy rate	74.04%	99%

Table 1:- India Denmark Country Profile

Source: (India: National Portal of India, 2019) ;(Denmark: BRITANNICA, 2019)

In the past couple of years from 2017, India has introduced several regulatory policies to improve the quality of higher education in India. Government has now appointed National Testing Agency (NTA) to conduct national level examinations like NET, NEET, JEE 0(Mains), that were originally organized by Central Board of Secondary Education (CBSE). NTA will gradually relieve AICTE, IITs, IIMs and other institutions and agencies from conducting their entrance test to enable them to focus more on their core mandate and research objectives. Along with that, government granted the Institution of Eminence (IoE) status to IIT Delhi, IIT Bombay and IISc Bangalore. This will help to get into the top 10 global rankings of Universities and attract international students. The PhD qualification will be made mandatory from year 2021 for being appointed at the entry level as the Assistant Professor. The effort is being made to improve the quality of higher education. In February 2018, cabinet approved implementation of Prime Minister's Research Fellowship. The scheme is aimed at attracting the brilliant minds in the country to pursue PhD courses at Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc) for carrying out research in world-class science and technology domain, with a focus on national interest. (Today, 12 education initiatives taken by the govt. in 2018 to strengthen India's education sector, 2018) All India Council for Technical Education (AICTE) has put in place a multi- faceted approach to update the technical know-how and thus greater employability of engineering students. (India Today, 2019).

1.3 Government Schemes for higher education in India

1. **Indian Central Sector Scheme of Scholarship for College and University Students:** This scholarship provides financial assistance to meritorious students from families with an annual income of less than Rs 6 lakh, to meet a part of their daily expenses while pursuing higher studies. The eligible students must score over 80 percentiles.
2. **All India Council for Technical Education Scholarships:** Under the Ministry of Human Resource Development (MHRD) Pragati is being implemented by AICTE. The scheme aims to provide assistance to girls pursuing technical education. Two girl children per family are eligible under this scholarship. The applicants which are eligible receive tuition Fee of Rs 30,000 and Rs 2,000 per month for 10

months as incidentals charges for each year.

3. **Saksham scholarship for specially-abled:** Saksham scholarship which also comes under the MHRD is available for specially-abled children to pursue technical education. Under this scheme 1,000 scholarships available to students (500 for degree and 500 for diploma). Students with disability of not less than 40 per cent and family income of not more than Rs 8 lakh per annum during the preceding financial year.
4. **Sports Scholarships – Sports Authority of India:** The scheme aims to recognize the achievements of young sports persons and their outstanding performance at the national, state and university levels. A selection committee selects the applicants on the basis of merit. Athletics, Badminton, Basketball, Boxing, Football, Gymnastics etc. are included.
5. **Post Matric Scholarship Scheme for Minorities:** This scholarship was set up to help meritorious students belonging to economically weaker sections of the minority community get better opportunities for higher education, increase their rate of attainment of higher education and enhance their employability. Scholarship will be awarded to students who have secured more than 50 per cent marks or equivalent grade in the previous final examination and the annual income of whose parents/guardians below Rs 2 lakh per annum.

1.4 How education affects human capital development

In human capital we perceive humans/ citizens as an asset which can contribute positively to the country's GDP and thus their development. Therefore, different countries are applying this strategy, that instead of focusing/investing maximum on different capitalistic instruments countries invest on their citizens by improving their skill, knowledge, experiences etc. India is trying to apply the same strategy by investing in skill development and personal development which in turn would lead to high returns when the citizens use these skills and contribute to the GDP which would lead to the development of the country. Thus, education plays an important role in the development of the human capital. This can be reflected by the HDI ranking of Denmark which was 11 in 2017 whereas India stood at 130 the same year. Though Denmark is a small country as compared to India but still it has managed to get into the top global rankings due to their skilled population which is the result of its dynamic and ever evolving higher education system and focuses on Human Capital development.

India's HDI score has constantly improved over the last decade. It has moved from 0.427 to 0.640 between 1990 and 2017. These rankings were driven by health, education, and income. But the major drive force was education. Below graph, formulated by the scores from UNDP report, shows the Human Development Index (HDI) and Education Index (EI) scores of India and Denmark from year 2000 to 2016. India's score in education index has also increased gradually but not with the rate of HDI. India moved from 0.379 in 2000 to a score of 0.556 in 2017.

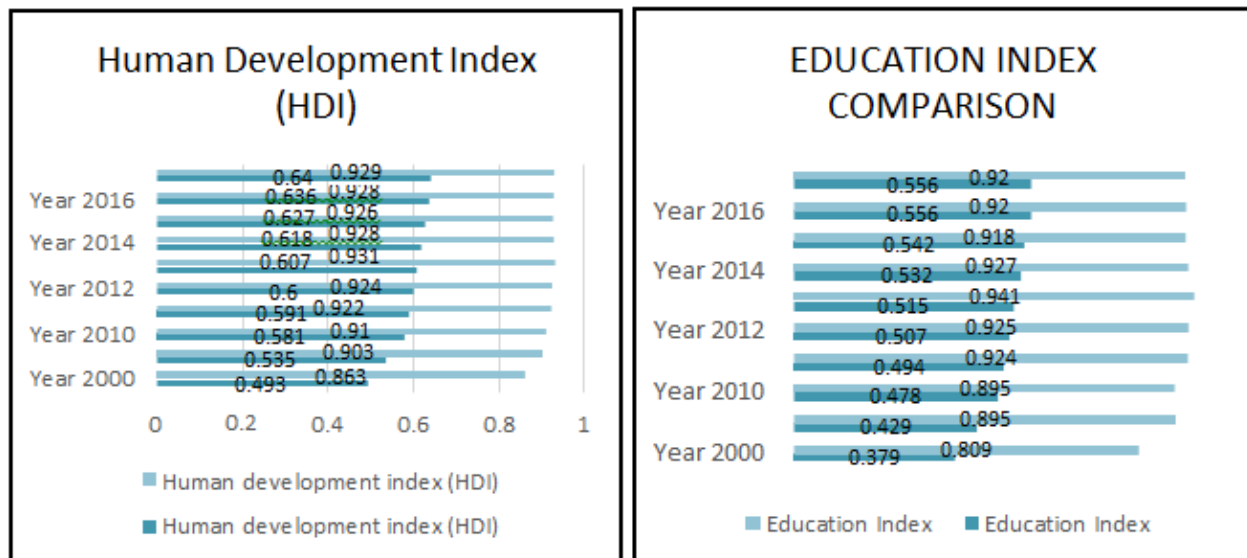


Chart 1:- India and Denmark HDI, EI Comparison Graph

Denmark's scores have been constantly higher than India, its HDI score was 0.929 in 2017 and its education index score was 0.920 in 2017. Thus, improvements need to be made in the education sector which would lead to an increase in education index rankings and further the human development index rankings of India.

1.5 Significance of the Research

The following table which shows the Human development Ratios based scores obtained by India and Denmark from the year 2000 to 2017 as per UNDP report 2018.

	Expected years of schooling (years)		Expected years of schooling, female (years)		Expected years of schooling, male (years)		Gross enrolment ratio, tertiary (% of tertiary school-age population)		Mean years of schooling (years)		Mean years of schooling, female (years)		Mean years of schooling, male (years)	
Year	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN
2000	0.379	0.809	8.3	16.2	9.3	15.7	10	57	4.4	10.7	3.2	11.2	6.2	11
2005	0.429	0.895	9.7	16.9	10.2	16.3	11	80	4.8	12.8	2.9	12.9	6.6	12.7
2010	0.478	0.895	10.8	16.9	11	16.3	18	74	5.4	12.7	3.6	12.8	7.2	12.7
2011	0.494	0.924	11.3	18.4	11.4	17.8	23	77	5.4	12.7	3.9	12.8	7.4	12.6
2012	0.507	0.925	11.5	18.7	11.3	18	24	79	5.6	12.8	4.2	12.9	7.6	12.6
2013	0.515	0.941	11.6	19.1	11.3	18.5	24	81	5.8	13.2	4.5	13.4	7.8	13.1
2014	0.532	0.927	11.9	19.1	11.6	18.3	26	81	6.1	12.8	4.8	12.7	8	12.9
2015	0.542	0.918	12	19.2	11.6	18.4	27	82	6.3	12.5	4.8	12.7	8.2	12.4
2016	0.556	0.92	12.3	19.1	11.9	18.4	27	81	6.4	12.6	4.8	12.7	8.2	12.4
2017	0.556	0.92	12.3	19.1	11.9	18.4	6.4	12.6	4.8	12.7	8.2	12.4

Table 2:- Human Development Ratios

In this research, we study the Human Capital Development through HE in India and Denmark with lessons for India. Expected years of Tertiary Education in India is low as compared to Denmark. But, on the other hand, it is continuously increasing throughout the years from 2000 (0.379) to 2017 (0.556) in India. And in the case of Denmark, it increased from 0.809 in the year 2000 to 0.92 in 2017. The same trend can be observed when Expected years of tertiary education is calculated separately for male as well as female in case of both India and Denmark. Gross Enrolment Ratio in India is low as compared to Denmark, But, on the other hand, it is continuously increasing throughout the years from 2000 (10) to 2016 (27) in India. And in the case of Denmark, it increased from 57 in the year 2000 to 81 in 2016. The mean years of tertiary education in India is low as compared to Denmark. But, on the other hand, it is continuously increasing throughout the years from 2000 (4.4) to 2017 (6.4) in India. And in the case of Denmark, it increased from 10.7 in the year 2000 to 12.6 in 2017. The same trend can be observed when mean years of tertiary education is calculated separately for male as well as female in case of both India and Denmark.

1.6 Statement of Research Problem

The research problem with respect to the HE system is grouped as;

1. **Measurement of Availability of the Resources:** For a well-performing education system, the availability of resources is important; it may be from the government or private source. In India, there are problems with respect to barriers in choice, percentage share of total GDP for HE, government expenditure per student, low coverage lifelong learning program, overpopulation, minimal financial support, etc.
2. **Comparison of Policy Environment:** India lacks behind in providing the best policy environment for tertiary institutions to operate. There are issues in the ethical approach, language barrier, and gap due to social factors and government policies in the education sector.
3. **National and International Research Connectivity:** Connectivity acts as a catalyst to facilitate technological change and economic growth. International connectivity is particularly crucial for developing countries. However, India has a wide skill gap, lack of industry-academic linkage, knowledge transfer and research culture along with limited global exposure resulting in a lack of employability and a lower number of international students.
4. **Analysis of the overall output:** India faces a dire necessity of improvement in the quality of HE, life skill development, vocational curriculum development, entrepreneurship development, raising the employment opportunity and employability of graduates. India has significant scope for improvement in the HE system to develop its human capital. There are several aspects where India can learn from the Danish education system and implement new reforms. We conduct the study of the problems in the Indian HE system in the light of the Danish HE system.

1.7 Objective of the Study

- 1 To compare the process of higher education in Denmark and India
- 2 To study the development of human capital through higher education in Denmark and India
- 3 To study the problems faced by the Indian higher education system in the light of the Danish education system
- 4 To suggest measures and reforms for the development of human capital through higher education for India

1.8 Research Methodology

This research supports the Qualitative approach which allows the researcher to collect information by allowing in-depth study of issues and thereby following a less structured format with fewer respondents than quantitative methods. Quota sampling method was adopted for this research study. July 2019 to November 2019 was the duration of the study. The study is based on secondary data as well as primary data collected by the Questionnaire. The secondary data was collected from various sources throughout the period of this study. Based on are view of literature variables were finalized for this research. After verification as to the completeness of the collected questionnaire, 100 samples were finalized from 163 responses. The data corresponding to the values in the Lickert Scale was entered for each statement in the questionnaire. The statistical analytical tools applied include 1) Reliability analysis, 2) Percentage Score analysis, 3) Ranking Score Analysis, 4) Correlation analysis, 5) ANOVA and 6) Average Score Analysis. The Study is limited to Time, Cost and Scope in analyzing the data. The major limitation is depending on secondary data as to the HE system of Denmark where in the case of India we could collect primary data too.

CHAPTER 2: CHANGING TRENDS IN DANISH & INDIAN HIGHER EDUCATION SYSTEM

In this Chapter Review of Literature is collected regarding the problems faced by the Indian Education system and the best practices in Denmark's HE system. The following table shows the scores obtained by India and Denmark from the year 2012 to 2019 as per the U21 report which clearly indicates the dire necessity to focus on HE policy amendments:

Score	Year 2019		Year 2018		Year 2017		Year 2016		Year 2015		Year 2014		Year 2013		Year 2012	
	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN	IND	DEN
Resources	42	93.7	42.4	97.1	44.6	98.2	42.1	100	41	100	41	100	41	100	23	97
Envrironemnt	70.5	78.9	65.3	79	65.3	81.2	71.8	80.3	68	81	70	83	71	83	69	81
Connectivity	25.9	84.7	24.3	81.5	22.8	85.2	24.6	88.1	24	87	24	90	16	71	16	64
Output	21.9	64.9	20.5	62.9	19.2	62.4	19.1	62.9	20	62	18	56	18	55	16	55
Overall	38.8	82.5	36.8	81.7	36.7	83.5	38	84.8	38	85	36.8	82.9	36.3	79.8	34	80

Table 3:- U21 Report Score Analysis

Source: Universitas 21, 2019

2.0 Availability of Resources

The current Population of India is 121.08 Crores and that of Denmark is 5.80 million. Increasing the population unfavorably affects the way of human capital in developing nations like India.(CSO, 2011)(MEIA:Statistics Denmark , 2018). Percentage of GDP measures the quality of Infrastructure i.e. public expenditure on the infrastructure level. Improvement in basic infrastructure is not enough considering the pace of time. Whereas, Denmark is the most sophisticated nation in terms of infrastructure.(Sreeradha D Basu, 2019). It is really a matter of concern in Indian HE that only 1 institution out of 5 has so far been accredited by NAAC. The Danish Accreditation institution and the accreditation council look forward to accredit the Higher Educational Institutions. In Denmark accreditation takes place including students into accrediting process and the council fixes surprise timings when the accreditation process takes place. (MHRD, Govt. of India , 2016) (MHES, 2017). The quality of teaching learning process depends on the availability of study tools such as Smart Classrooms, Internet browsing, etc. In India, many a times the training given to teachers is insufficient. In Denmark, teachers pre-service training programs vary with respect to content and duration depending on the level of education. A Teacher must have a qualification of Ph.D. level, if they wish to enroll for a full-time position in the university sector from the year 2021.(M.S.Sodha, 18th February, 2018). In India, Government expenditure per student has been decreasing continuously over the past years. The expenditure per student during 2013 was 49.18 of the total GDP per Capita. Therefore, there is a need for high amount of investment. Whereas, the tuition fees for the Danish students for Denmark citizens are free of cost. The students enrolled in HE courses get special monthly grants in Denmark. Finance in Denmark considers the grants and loan to 18-year students without Interest chargeable and payable only after 7 years to 14 years.(MHRD, Govt. of India, 2019)(The World Bank, 2017)

2.1 *Comparison of Policy Environment*

The choice of an individual towards his/her career can be influenced by external factors. In some parts of India, choices of an individual towards his/her career can be influenced through social factors like choices for women are very less due to the conservative mindset of family, casteism in society especially in rural areas. In Denmark, the circumstances arising while selecting a particular course are way too different from India. Danes tend to choose the HE area as per their likes, interest area, etc. which results in a greater workforce having dedication and interest in their work. (Jens Peter Thomsen, 2013). In India, the concept of lifelong learning has not been properly implemented and is very slow. Draft of NEP 2019 also places importance to promote adult and lifelong learning in India. According to Denmark's strategy for lifelong learning report to the European Commission in April 2007, the Danish government had framed certain policy where every citizen participation and adult education and continuing training has given importance. (Uttam, 2019). Many students' despite of having intelligence suffer due to a lack of understanding of the English language and also lose a lot of job opportunities. Denmark's HE offers programs in various languages. The choice of language differs from institute to institute. Institutes offer courses in English as well as various foreign languages like German, French, etc. Our ethical crisis is arguably larger than our financial crisis. India has such a wide knowledge and rich spiritual heritage but it is a sad reality that we are forgetful of this treasure. In Denmark mostly in schools they subtly and gradually mix children of different strengths and weaknesses together it helps students to students to see that everyone has positive qualities and to support each other in their efforts reach the next level which helps in ethical qualities like collaboration, teamwork, and respect. Students are taught with a view of inculcating an ethical approach in there learning. (Alexander, 09.08.2016).

2.2 *National and International Research Connectivity*

Discrimination on the basis of social factors like region, religion, caste, race and gender is mostly seen in the underdeveloped and undeveloped regions in India. The Denmark education system doesn't create discrimination on the basis of such social factors in the field of education. The Indian academic structure focuses more on conceptual study rather than a practical approach. The Denmark institute offers students the chance of working in industry practically together while taking education. So, the universities are allowed to collaborate with others or outside institutions which leads to knowledge transfer. A substantial amount is invested by Denmark from public resources on education and priorities funding for meeting local needs. In India apart from curriculum-based teachings research culture has to be inculcated. Danish students get the opportunity of having a qualified job according to their qualifications; they acquire more global exposure from their HE stages as per their selected courses. The use of technology in Indian education system is comparatively low. The Danish system adopted the new strategy for education and IT by giving global exposure to Students a particular benchmark is set to cope up with the standard of Global education. The difference between actual potential and the real application causes a skill gap. This results in a poor quality of education. There is a mismatch between actual qualifications and jobs in India. But the Danish way of education says vocational training base given to the students will let them set their goals according to their interest area. The rate of an international student coming in India to take HE is very low compared to other countries; this is because of low standards of HE provided, less practical knowledge and high rate of capital needed. The standard of HE in Denmark is remarkable and it is available at low cost but with better opportunities compared to India. The rate of an international student coming to Denmark is almost 55% of total international student in the globe whereas in India it is just 1%. (India Today, 21.09.18).

2.3 *Analysis of Overall Output*

In India, the vocational education is add-on-course on graduation level. In Denmark, students can enroll themselves in VET courses immediately after completion of their basic schooling. VET programs enable the students to get practical training as per their interest areas. In India, life skill development is taking place informally where there is no such certification is given to an individual about his particular skill. Danish system focuses on the overall development of a student, including improvement in his outcome of communication skills, self-confidence and other life skills. The majority of the top business schools in India offer entrepreneurship education with tailored elective courses to make overall development and multi-disciplinary approach in the students. (Researchgate, 2014) India being a populated country, jobs and opportunities for employment to educated individuals are in shortfall. The society is attacked by the term overeducated workforce. On the other hand, the Danish Ministry of Employment focuses on the factors falling under the labor market criteria. (Kaul, 2006)

CHAPTER 3: COMPARATIVE STUDY OF INDO – DANISH HIGHER EDUCATION SYSTEM

3.1. Reliability Analysis

Using SPSS, reliability analysis is done and is interpreted based on the following value range:

Reliability	Interpretation
< 0	Poor agreement
0.0 – 0.20	Slight agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Moderate agreement
0.61 – 0.80	Substantial agreement
0.81 – 1.00	Almost perfect agreement

Case Processing Summary				Reliability Statistics		
		N	%			
Cases	Valid	100	100.0	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
	Excluded	0	.0			
	Total	100	100.0			
a. List wise deletion based on all variables in the procedure.				.776	.814	28

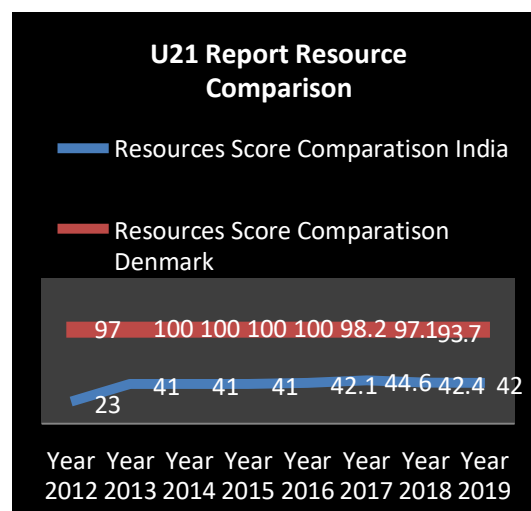
Table 4 Reliability Analysis Test

Source: Primary Data

The result of the Reliability analysis is = 0.814 (Almost perfect agreement)

3.2. Research Problem 1: To measure the resources and its availability in India

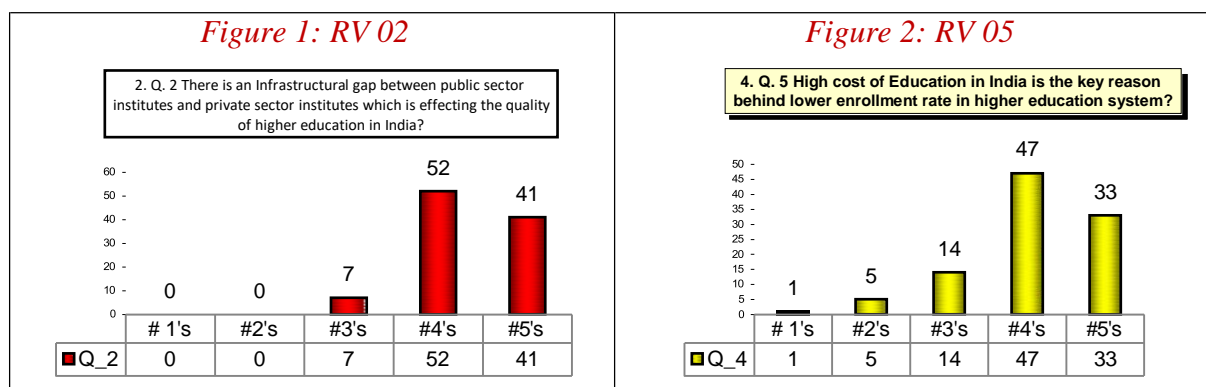
This problem is studied with respect to the identified variables such as: Population (RV01), Proper infrastructure (RV02), Institutional accreditation (RV03), Measures of quality of teaching learning process (RV04), GER (RV05),



STR (RV06), Financing HE (RV07), Expenditure per student (RV08) and Contribution of total GDP in HE (RV09).

From the analysis of the U21 report, the comparison of India and Denmark scores can be depicted as given in the chart. We can comment that: (1) **Infrastructure:** Indian system lacking behind in case of the ranking of infrastructural policies because there is less Uniformity of quality infrastructure in every part of the country. Danish system has particularly planned, well-developed equipment utilizing the resources of infrastructure as a whole. Such circumstances lead to a Higher score of Infrastructure in Denmark. In terms of resource, India ranks 40th whereas Denmark ranks 4th with a score of 93.7 (2) **Quality of teaching learning process:** Denmark practices low STR to promote quality education. Focusing students' abilities could be achieved along with a high quality of teaching. Indian Education lacks in maintaining a proper STR, which restricts a teacher to groom a student. That further sacrifices the quality of teaching learning. In terms of resource, India ranks 40th whereas Denmark ranks 4th with a score of 93.7 (3) **Cost of education:** Danish system offer free education in terms of tuition fees that ultimately gives chance to increased GER. On the other hand, the Indian system falls behind when it comes to maintaining the cost of education low. In terms of resource, India ranks 40th whereas Denmark ranks 4th with a score of 93.7

3.2.1 Percentage analysis:



Source: Primary Data

From the above percentage analysis, we found that:

- Respondents gave the highest opinion towards RV02 (Infrastructural development) followed by RV 05 (Gross Enrollment Ratio).
- RV02 (Infrastructural Development): 93% of the respondents opined that there is an infrastructural gap which is affecting HE in India.
- RV 05 (Gross Enrollment Ratio): 80% of the respondents felt that the High cost of Education in India is the key reason behind the lower enrollment rate in the HE system.

3.2.2 Ranking analysis and Correlation Analysis

Correlation analysis is a method of statistical evaluation used to study the strength of a relationship between two, numerically measured, continuous variables. This particular type of analysis is useful when a researcher wants to establish if there are possible connections between variables.

Q. 4 Rank the following measures to improve the quality of teaching learning process in Indian higher education system.

Status	EL	TP	PL	MS	IM	Age	EL	TP	PL	MS	IM	EQ	EL	TP	PL	MS	IM
Rank 1	36	12	31	15	15	Rank 1	36	12	31	15	15	Rank 1	36	12	31	15	15
Teach	7	0	8	3	4	Blw 20	4	2	5	4	3	UG	7	0	8	3	4
Stud	2	2	4	2	3	20-30	4	0	4	2	1	G	2	2	4	2	3
BusCl	13	5	9	6	5	30-40	9	3	9	3	5	PG	13	5	9	6	5
SrvCl	4	2	6	2	1	40-50	11	2	8	4	2	PhD	4	2	6	2	1
Ots	10	3	4	2	2	50 Abv	8	5	5	2	4	Prof	10	3	4	2	2

Table 5 Ranking of Quality of Teaching Learning Process

Source: Primary Data

EL: E-learning, TP: Third party assessment of teachers, PL: Practical learning, MS: Massive Open Online Courses, IM: Individual mentor.

- From the ranking analysis, it is found that E-Learning is ranked 1st which is followed by Practical learning as a required improvement measure in the Indian HE system. Business Class and Others show the highest level of demand for E-Learning and Practical Whereas, Post Graduates and Professionals also suggest a great demand for E-Learning. Respondents in the age group between 30 to 40 and 40 to 50 years have indicated the necessity of the E- Learning process.

Particulars	EL	TPA	PL	MOOCs	IM
E-Learning (EL)	1				
Third party assessment of Teachers (TPA)	0.403493	1			
Practical Learning (PL)	0.487886	0.443398106	1		
Massive Open Online Courses (MOOCs)	0.236584	0.276484923	0.560121	1	
Individual Mentors (IM)	0.069808	0.245828387	0.531717	0.544327	1

Table 6 Correlation Matrix of Measures to improve quality of teaching learning process

Source: Primary Data

From the above Correlation Matrix table, we found that practical learning and MOOC's are positively correlated to each other (0.560120834). Also, MOOC's and individual mentors are positively correlated to each other (0.544326786)

3.2.3 ANOVA

Analysis of variance (ANOVA) is a statistical technique that is used to check if the means of two or more groups are significantly different from each other.

Null Hypothesis: The Status/Age/Educational qualifications of the respondents do not influence their perception towards measuring the resources and their availability in India.

The Table below describes the results of ANOVA in terms of independent variables, sources of variations, degrees of freedom, the sum of squares, mean sum of squares, F value, p-value and its significance.

<i>Source of Variation (Status of the respondent)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	195.34787	8	24.418484	24.754472	1.37595E-34	1.948789
Within Groups	877.9202	890	0.9864272			
Total	1073.2681	898				
<i>Source of Variation (Age of the respondent)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	269.86043	8	33.732554	37.261503	3.55048E-51	1.948789
Within Groups	805.7102	890	0.9052924			
Total	1075.5706	898				
<i>Source of Variation (Educational Qualification)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	339.52222	8	42.440278	46.486308	1.26034E-62	1.948778
Within Groups	813.45	891	0.912963			
Total	1152.9722	899				

Table 7 Availability of Resources and Independent Variables

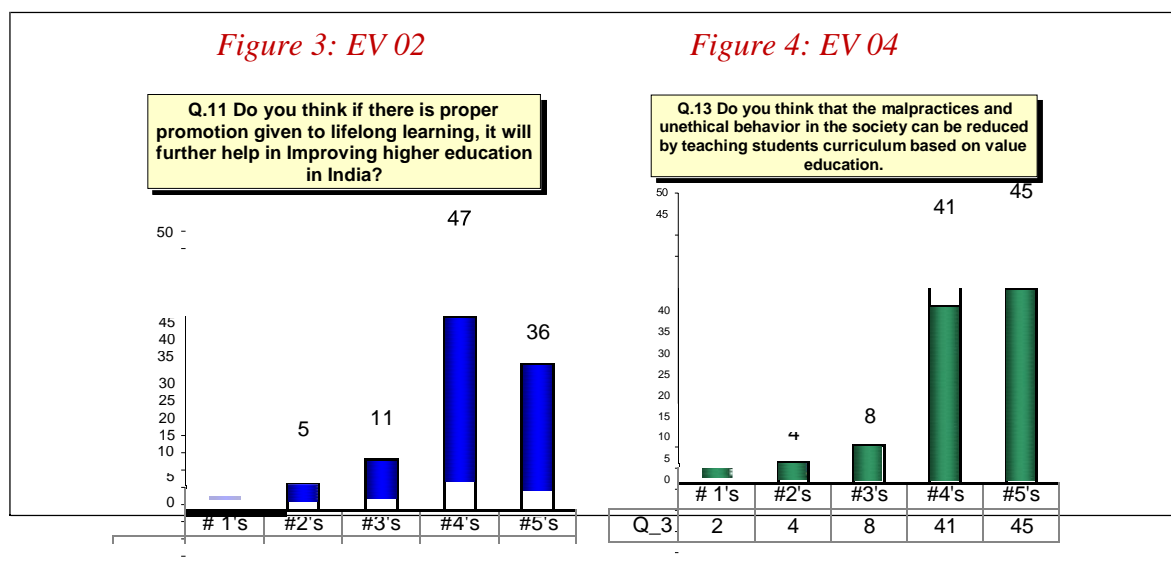
Source: Primary Data S – Significant at 5% level ($p \text{ value} \leq 0.05$); NS – Not Significant

- It is found from the table above that the null hypothesis is rejected in all cases, which establishes the significance of the studied variables. It is concluded that the Status/Age/Educational qualifications of the respondents significantly influence their perception towards the study factor as to measuring the resources and its availability in India.

3.3. Research Problem 2: To compare the policy environment under which the higher education institutions operate

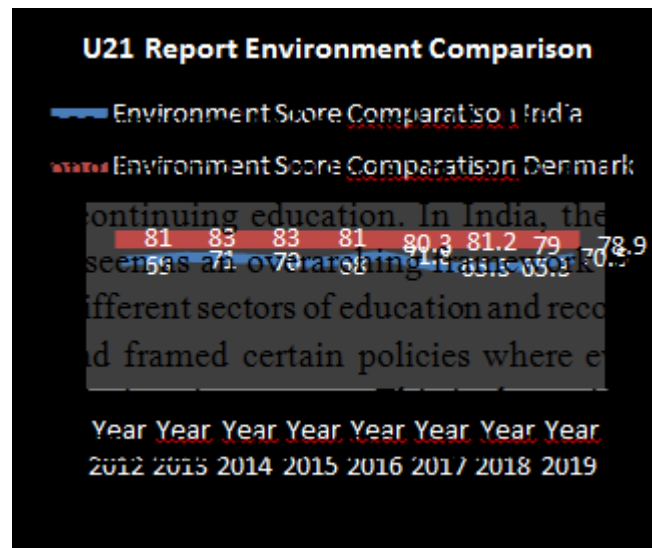
This problem is studied with respect to the identified variables such as: Barrier's in choice (EV01), Lifelong learning (EV02), Language barrier (EV03) and Ethical Approach (EV04). As per the U21 report, the chart is drawn and we found the reasons as (1) **Choices:** In India, choices of an individual are influenced by various factors like Expenditure on Education, Home-Institute distance, Physical disability, Political instability and infrastructure. In Denmark, such social factors do not act as a barrier of choice of an individual. This is the main reason for India's low ranking as compared to Denmark. (2) **Lifelong learning:** The process of developing the policy framework of lifelong learning in India is very slow and used as an umbrella term to cover basic literacy, post-literacy and continuing education. In India, the concept of Lifelong Education and Awareness Program (LEAP) is not seen as an overarching framework of learning, the main reason being the absence of interlinkages among different sectors of education and recognition and validation of prior learning. The Danish government had framed certain policies where every citizen participation and adult education and continuing training has given importance. This is the main reason for India's low ranking as compared to Denmark. (3) **Language Barrier:** Most of HE in India is being taught in the English Language which acts as a barrier for many students. Denmark's, HE offers programs in various languages differing from institute to institute. This enables the students to choose from different languages like Danish, German, French, etc. and ensures that language does not act as a barrier for any student. This is the main reason for India's low ranking as compared to Denmark. (4) **Ethical approach:** It is difficult to find People with ethical flavors because India has widespread knowledge and rich spiritual heritage but it is a sad reality that we are forgetful of this treasure. In the Indian HE system, specifically higher technical education, the importance of values and ethics has been lost. In Denmark, programs like 'CAT-kit' and 'My Circle' help students to improve emotional awareness and increase their understanding of each other. This is the main reason for India's low ranking

3.3.1 Percentage analysis:



From the above percentage analysis, we found that:

- Respondents gave the highest opinion towards EV 04 (Ethical Approach) followed by EV 02 (Lifelong learning).
- EV 04 (Ethical Approach): 86% of the respondents opined that malpractices and unethical behavior can be reduced in India by teaching students value education.
- EV 02 (Lifelong learning): 83% of the respondents felt that Lifelong learning should be promoted on a larger scale to improve HE system in India.



3.3.2 Ranking analysis and Correlation Analysis

Status	EE	HID	PD	PI	INFRA	AGE	EE	HID	PD	PI	INFRA	EQ	EE	HID	PD	PI	INFRA
Rank 1	39	15	12	20	18	Rank 1	39	15	12	20	18	Rank 1	39	15	12	20	18
Teach	8	2	1	4	5	Blw 20	6	1	3	4	1	UG	10	4	6	7	3
Stud	8	3	4	5	3	20-30	13	7	3	7	6	G	18	5	1	10	9
BusCl	11	5	3	5	6	30-40	7	2	1	4	6	PG	3	1	2	2	2
SrvCl	2	3	2	4	1	40-50	10	4	4	5	5	PhD	3	0	0	0	2
Ots	10	2	2	2	3	50 Abv	3	1	1	0	0	Prof	5	5	3	1	2

Table 8 Ranking of Barriers in Choices for Higher Education

Source: Primary Data

EE: Expenditure on education, HID: Home-institute distance, PD: Physical disability, PI: political instability, INFRA: Infrastructure.

Q.10 Rank the following factors responsible for barriers in choices against HE.

Particulars	EE	HID	PD	PI	INFRA
Expenditure on education (EE)	1				
Home-Institution Distance (HID)	0.57618	1			
Physical Disability (PD)	0.132549	0.264785	1		
Political Instability (PI)	0.191252	0.266339	0.260304	1	
Infrastructure (INFRA)	0.347523	0.282915	0.226067	0.568102	1

Table 9 Correlation matrix of factors responsible for barriers in choices against HE*Source: Primary Data*

From the above analysis, we found that Expenditure on education and Home-Institution distance are positively correlated (0.576180064). Also, Political instability and infrastructure are positively correlated to each other (0.568101891). From Ranking analysis, it is found that Education Expenditure is ranked 1st, followed by Political instability as a factor responsible for the barrier in choice, in the Indian HE system. Business Class and Others show the highest level of demand for Education Expenditure and Political instability. Respondents in the age group between 20 to 30 and 40 to 50 years have indicated the necessity of the E- Learning process. Whereas, Under Graduates and Graduates also suggest that Education Expenditure results in barriers in choice in India.

3.3.3 ANOVA:

□ **Null Hypothesis:** The Status/Age/Educational qualifications of the respondent's do not influence their perception towards the study factor as to policy environment in India.

<i>Source of Variation (Educational Qualification)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	145.112	4	36.278	31.9377	1.08666E-23	2.389948
Within Groups	562.27	495	1.135899			
Total	707.382	499				
<i>Source of Variation (Age of the respondent)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	204.548	4	51.137	51.65248	2.36943E-36	2.389948
Within Groups	490.06	495	0.99002			
Total	694.608	499				
<i>Source of Variation (Educational Qualification)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	262.228	4	65.557	65.63921	1.57737E-44	2.389948
Within Groups	494.38	495	0.998747			
Total	756.608	499				

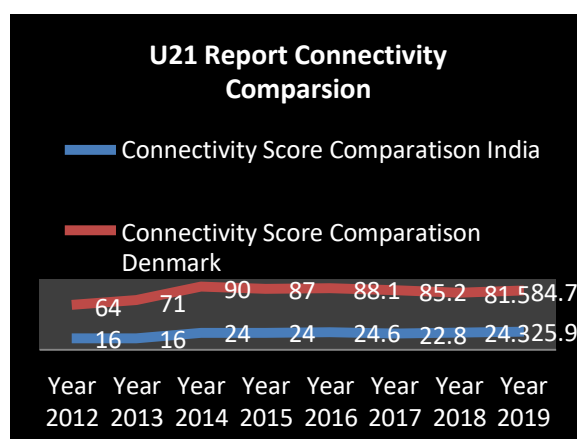
Table 10 Comparison of Policy Environment and Independent Variables*Source: Primary Data S – Significant at 5% level (p value ≤ 0.05); NS – Not Significant*

□ It is found from the table above that the null hypothesis is rejected in all cases, which establishes the significance of the studied variables. It is concluded that the Status/Age/Educational qualifications of the respondents significantly influence their perception towards the policy environment in India.

3.4 Research Problem 3: To evaluate the national and international connectivity of higher education system in India.

This problem is studied with the identified variables such as: Social Barriers (CV01), Government reforms in HCD (CV02), GPI (CV03), HDI (CV04), Education sector government policy (CV05), Skill gap (CV06), Knowledge transfer (CV07), Industry academy linkage (CV08), Research culture (CV09), Migration role in HCD (CV10), International students (CV11), International research linkage (CV12) and Global exposure(CV13). From the U21 report analysis we can draw the graph and comment on the reasons for the parity (1) **Skill gap:** In India, the less practical study and more theoretical study are creating a skill gap. There is a need for including the practical knowledge of subjects in the curriculum. (2) **Government reform in HCD:** In Denmark, there is only one policy framing body OECD

which focus on making reform but on the other hand there are many government institutions in India which focus on policymaking this is creating hurdle as more institutions more time taking in the process of frameworks of policy. (3) **Social barrier:** There are many social barriers in India which are affecting the HE system. The discrimination-free environment will help to



create the quality of higher education in India. (4) **Gender parity index:** there are still differences in gender in many of the states in India which is affecting the literacy rate in the country. Denmark is ranked high in the GPI index there are an equal rate of man and women contributing in HE sectors.

3.4.1 Percentage Analysis

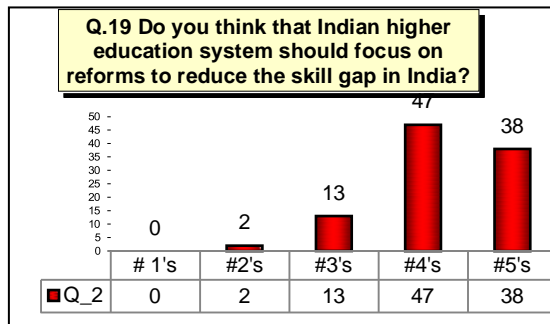


Figure 5: CV06

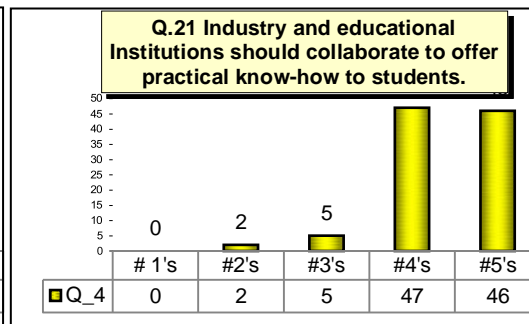


Figure 6: CV06

Source: Primary Data

From the above percentage analysis, we found that:

- ☐ Respondents gave the highest opinion towards CV 08 (Industry academy linkage) followed by CV 6 (Skill Gap).
- ☐ CV 08 (Industry academy linkage): 93% of the respondents opined that Industry-Academic linkage will provide greater exposure HE students in India.
- ☐ CV 6 (Skill Gap): 85% of the respondents felt that Indian HE System should focus on reforms to reduce the skill gap in India.

3.4.2 Correlation and Ranking analysis:

Q.14 Rank the following social factors acting as the barriers in Indian Higher education system.

Status	Gender	Caste	Race	Religion	Age	Gender	Caste	Race	Religion	Religion	EQ	Gender	Caste	Race	Religion
Rank 1	27	23	16	12	Rank 1	27	23	16	12	12	Rank 1	27	23	16	12
Teach	4	3	3	3	Blw 20	4	3	2	3	4	UG	6	4	4	4
Stud	5	4	3	2	20-30	7	10	6	5	2	Grad	8	11	6	5
BusCl	4	7	4	4	30-40	4	5	3	3	4	PG	5	7	5	3
SrvCl	4	6	3	3	40-50	9	5	5	1	2	PhD	2	0	1	0
Ots	10	3	3	0	50 Abv	3	0	0	0	0	Prof	6	1	0	0

Table 11 Ranking of Social Factors

Source: Primary Data

- ☐ Gender Discrimination is ranked 1st, followed by Caste Discrimination as a social factor responsible for the barrier in choice, in the Indian higher education system.
- ☐ Business Class and Others show the highest response for Gender Discrimination and Caste Discrimination.

- ☐ Respondents in the age group between 20 to 30 and 40 to 50 years have responded gaps due to Gender Discrimination and Caste Discrimination.
- ☐ Whereas, Graduates have also suggested that Gender Discrimination and Caste Discrimination acts as social barriers in choice in India.

Q.14 Rank the following social factors acting as the barriers in Indian HE system.

Particulars	Gender	Caste	Race	Religion	Region
Gender	1				
Caste	0.452579	1			
Race	0.260303	0.344177	1		
Religion	0.14621	0.453305	0.447074	1	
Region	-0.03641	0.136123	0.198711	0.448292	1

Table 12 Correlation matrix of social factors acting as the barriers in Indian HE system

Source: Primary Data

- ☐ From the above analysis, we found that caste and religion are positively correlated to each (0.45330505). Also, gender and caste are positively correlated to each other (0.452578548)

Q.15 Rank the following reforms where there is a major scope for improvement in Indian Higher Education system.

Status	FS	INFRA	QT	D and T	PE	Age	FS	INFRA	QT	D and T	PE	EQ	FS	INFRA	QT	D and T	PE
Rank 1	39	22	32	22	19	Rank 1	39	22	32	22	19	Rank 1	39	22	32	22	19
Teach	7	5	9	5	5	Blw 20	7	5	9	5	5	UG	8	5	9	5	5
Stud	5	3	5	4	3	20-30	12	8	11	8	6	G	16	11	16	13	9
BusCl	10	8	8	6	5	30-40	8	5	5	6	4	PG	6	5	6	4	5
SrvCl	6	3	5	5	3	40-50	9	4	7	3	4	PhD	2	1	1	0	0
Ots	11	3	5	2	3	50 Abv	3	0	0	0	0	Prof	7	0	0	0	0

Table 13 Ranking of major scope for improvement in Indian higher education system

Source: Primary Data

FS: Fee structure, INFRA: Infrastructure, QT: Quality teaching, D and T: Development and training to low quality institutes, PE: Promoting enrollment rate in Higher Education System.

- ☐ Fee Structure is ranked 1st, followed by Quality Teaching as an improvement measure required in the Indian higher education system.
- ☐ Business Class and Others show the highest level of demand for Fee Structure and Quality Teaching.
- ☐ Respondents in the age group between 20 to 30 years have indicated the necessity of improvement in Fee Structure and Quality Teaching.
- ☐ Thus, Graduates also suggest that improvement in Fee Structure and Quality Teaching are essential development of the higher education system in India.

Q.15 Rank the following reforms where there is a major scope for improvement in Indian HE system.

Particulars	FS	INFRA	QT	D and T	PE
Fee structure (FS)	1				
Infrastructure (INFRA)	0.636618	1			
Quality Teaching (QT)	0.528844	0.720576	1		
Development and training to low quality institutes (D and T)	0.526194	0.632137	0.692498	1	
Promoting enrollment rate in Higher Education System (PE)	0.282801	0.481965	0.681296	0.673844	1

*Table 14 Correlation matrix of reforms where there is a major scope for improvement in Indian HE System***Source: Primary Data**

- From the above analysis, we found that infrastructure and quality teaching are positively correlated to each other (0.720576358). Also, quality teaching and development and training to low-quality institutes are positively correlated to each other (0.692498184).

Q.16 Rank Improvement measures to be made in the Indian Higher education system to reduce the gender inequality gap

Status	PGB	SOW	FFG	FC	SGC	Age	PGB	SOW	FFG	FC	SGC	EQ	PGB	SOW	FFG	FC	SGC
Rank 1	36	35	25	23	21	Rank 1	36	35	25	23	21	Rank 1	36	35	25	23	21
Teach	7	8	8	6	6	Blw 20	7	7	7	4	5	UG	8	8	8	6	6
Stud	6	7	4	4	4	20-30	11	16	7	8	7	G	14	21	11	10	6
BusCl	8	11	5	4	2	30-40	7	7	6	6	4	PG	6	5	6	7	7
SrvCl	5	5	5	5	5	40-50	8	5	5	5	5	PhD	1	1	0	0	2
Ots	10	4	3	4	4	50 Abv	3	0	0	0	0	Prof	7	0	0	0	0

*Table 15 Ranking of Measures to be made in Indian higher education system***Source: Primary Data**

PGB: Proper Gender Budgeting, SOW: Safety of women, FFG: Free-ship for girls in higher education, FC: Female counselling, SGC: Separate girls college.

- Proper Gender Budgeting is ranked 1st, followed by the Safety of Women as an improvement measure required in the Indian higher education system.
- Business Class and Others show the highest level of demand for Proper Gender Budgeting and Safety of Women.
- Respondents in the age group between 20 to 30 years have indicated the necessity of improvement in Proper Gender Budgeting followed by the Safety of Women.
- Whereas, Graduates suggest that the Safety of Women is most important before Proper Gender Budgeting for the development of the higher education system in India.

Q.16 Rank Improvement measures to be made in the Indian HE system to reduce the gender inequality gap.

Particulars	PGB	SOW	FFG	FC	SGC
Proper Gender Budgeting (PGB)	1				
Safety of Womens (SOW)	0.645761	1			
Free ship for girls in Higher education (FFG)	0.552096	0.675187	1		
Female Counselling (FC)	0.436018	0.648976	0.668625	1	
Separate girls college (SGC)	-0.01042	-0.02448	0.258787	0.473738	1

Table 16 Correlation matrix for measures to be made in the Indian HE System to reduce the gender inequality gap

Source: Primary Data

- From the above analysis, we found that safety of women and free ship for girls in HE are positively correlated to each other (0.675187167). Also, free ship for girls in HE and female counseling are positively correlated to each other (0.668625421)

3.4.3 ANOVA:

- **Null Hypothesis:** The Status/Age/Educational qualifications of the respondent's do not influence their perception towards the study factor as to international research linkage.

Source of Variation (Status of the respondent)	SS	df	MS	F	P-value	F crit
Between Groups	129.909	9	14.43433	20.1799	2.21644E-31	1.889321
Within Groups	708.13	990	0.715283			
Total	838.039	999				
Source of Variation (Age of the respondent)	SS	df	MS	F	P-value	F crit
Between Groups	224.016	9	24.89067	38.74978	2.88364E-59	1.889321
Within Groups	635.92	990	0.642343			
Total	859.936	999				
Source of Variation (Educational Qualification)	SS	df	MS	F	P-value	F crit
Between Groups	308.464	9	34.27378	52.99738	1.35201E-78	1.889321
Within Groups	640.24	990	0.646707			
Total	948.704	999				

Table 17 International Research Connectivity and Independent Variables

Source: Primary Data S – Significant at 5% level ($p \text{ value} \leq 0.05$); NS – Not Significant

- It is found from the table above that the null hypothesis is rejected in all cases. It means the studied research problem has significance. It is concluded that there exist significant differences between the international research connectivity marked by the respondent with respect to independent factors.

3.5 Research Problem 4: To study the overall output of higher education system in India

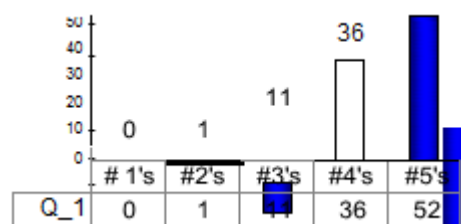
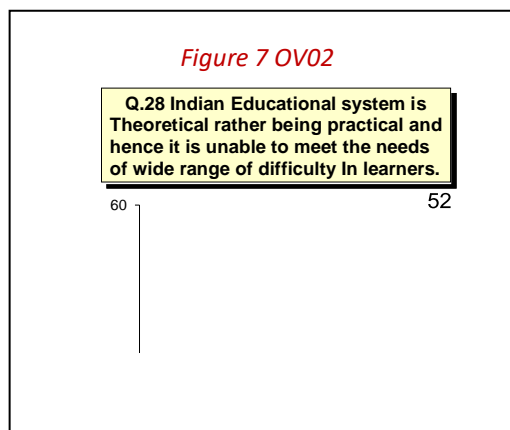
This problem is studied with the identified variables such as: Global technical know-how (OV01), Vocational aspects of Curriculum development (OV02), Life skill development (OV03), Importance of quality education (OV04), Entrepreneurship development (OV05) and Employment opportunity and Employability (OV06) From the U21 report, the following inferences are drawn.

1) Inculcating hands-on learning: In India, very few courses offer internship programs due to which the practical approach of the subject is denied to the students. Therefore, they are enabled with education but disabled by practical learning. In Denmark, there is a proper industry-academic linkage. Students early on in their careers are given practical education accordingly in specific fields thus developing a much better approach with an integration of theoretical and practical knowledge. This is the reason why Denmark ranks higher in global educational rankings. **(2) Need for skill subjects:** In India, skill subjects are not part of a regular curriculum. Due to this, the students have to acquire these needed skills through add on courses or separate VET courses which not available in all institutions in India thoroughly. Whereas in Denmark VET courses are provided to the students right during secondary education. Due to this, Denmark is the home to a large skilled population. Due to this reason, India lags in the HDI rank to Denmark. **(3) Promoting EdTech:** Integration of education and technology has not taken place in India as per the global standards. Many institutions in India lack the smart class, the latest technologies in the labs, and sustainable development. Due to this, the students miss opportunities to compete on par with global students. In Denmark integration of technology at the core level has helped students in their interpersonal skills as well. Nettop software is seamlessly blurring the lines between distance learning and classroom learning in Denmark. Thus, due to these reasons, India ranks behind Denmark in UNDP rankings. **(4) Boosting start-ups and entrepreneurship:** In India, startups are not given proper financing due to which these startups are closed down before starting itself. A proper launchpad is not available for young entrepreneurs to experiment without the fear of loss of funds. On the contrary, Denmark has created world-class digital infrastructure along with a strong network of clusters of tech entrepreneurs which provides a strong base for young startups to prosper. This is the reason why India lacks behind demark in global rankings.

1.5.1 Percentage Analysis

From the percentage analysis we found that: OV02(Vocational aspects of curriculum development):

89% of the respondents felt that the Indian Educational system is Theoretical rather than being practical and hence it is unable to meet the needs of a wide range of difficulty in learners.



Source: Primary Data

1.5.2 Correlation and Ranking analysis:

Q.26 Rank the following Program's in India that should be upgraded with the latest global trends

Stat	Encoura	E	L	M	Simula	Age	Encoura	E	L	M	Simulati	EQ	Encoura	E	L	M	Simulati
us	gi ngL	ngL	T	S	ti on		gi ngL	ngL	T	S	on		gi ngL	ngL	T	S	on
Online	Test				Learn		Online	Test			Learn		Online	Test			Learn
Test					ng		Test				ng		Test				ng
Ran	40	24	28	22	25	Ran	40	24	28	22	25	Ran	40	24	28	22	25
k 1						k 1						k 1					
Teac	7	7	7	5	8	Blw	7	5	3	3	4	UG	5	5	8	4	5
h						20											
Stud	15	10	11	8	9	20-	10	7	10	8	7	G	23	12	14	14	15
						30											
BusC	6	5	7	5	5	30-	10	6	6	3	6	PG	5	2	1	3	2
l						40											
SrvCl	9	2	3	4	3	40-	11	6	8	7	8	PhD	3	3	3	3	4
						50											
Ots	3	0	0	0	0	50	2	0	1	1	0	Prof	4	5	5	1	3
						Abv											

Table 18 Ranking of programs to be updated with latest global trend

#

EL: E-Learning, LT: Latest technology, MS: Massive Open Online Courses.

□ Encouraging online tests is ranked 1st with a large difference, followed by Simulation Learning as an improvement measure required in the Indian higher education system. Students show the highest level of demand for Encouraging online test and Latest Technology.

□ Respondents in the age group between 20 to 30 years have indicated the necessity of improvement in Encouraging online tests and the Latest technology followed by the Safety of Women. Age Group 30 to 40 and 40 to 50 also suggest a need for Encouraging online tests. Whereas, Graduates suggest that Encouraging online tests and the Latest Technology are should be upgraded with latest global trends in India.

Q.26 Rank the following Program's in India that should be upgraded with global trends.

Particulars	EOT	EL	LT	MOOC	SL
Encouraging Online Tests (EOT)	1				
E-learning (EL)	0.771162	1			
Latest Technology (LT)	0.617874	0.768989	1		
Massive Open Online Course (MOOC)	0.474808	0.571994	0.774029	1	
Simulation Learning (SL)	0.377613	0.551942	0.642432	0.709786	1

Table 19 Correlation matrix of program's in India that should be upgraded with the latest global trends

Source: Primary Data

□ From the above analysis, we found that the latest technology and MOOC's are positively correlated to each other (0.774028932). Also, encouraging online tests and E-learning are positively correlated to each other (0.771162474)

Q.32 Rank in Order for the reasons responsible for Unemployable fresher in India.

Status	OC	LK	LOIE	LOSS	WCC	Age	OC	LK	LOIE	LOSS	WCC	EQ	OC	LK	LOIE	LOSS	WCC
Rank 1	43	12	13	16	15	Rank 1	43	12	13	16	15	Rank 1	43	12	13	16	15
Teach	6	2	2	4	5	Blw 20	7	2	3	4	4	UG	7	3	5	4	2
Stud	8	2	3	4	3	20-30	12	4	5	5	4	G	20	5	5	7	9
BusCl	11	5	4	4	3	30-40	11	2	1	2	5	PG	9	2	1	2	3
SrvCl	6	2	3	2	2	40-50	11	4	4	5	2	PhD	3	0	0	0	0
Ots	12	1	1	2	2	50 Abv	2	0	0	0	0	Prof	4	2	2	3	1

Table 20 Ranking of reasons responsible for unemployment of freshers

Source: Primary Data OC: Outdated curriculum, LK: Lack of Knowledge, LOIE: Lack of industrial exposure, LOSS: Lack of soft skills, WCC: Wrong career choices.

- Outdated Curriculum is ranked 1st by maximum respondents followed by a Lack of soft skills as a prime reason for unemployable fresher, in the Indian higher education system. Business Class and Others show the highest response for the Outdated Curriculum.
- Respondents in the age group between 20 to 30, 30 to 40 and 40 to 50 years have reported the Outdated Curriculum as a factor responsible for unemployable fresher. Whereas, Graduates have also suggested that the Outdated Curriculum and Wrong career choice followed by Post Graduates responding that the Outdated Curriculum acts as a major reason responsible for unemployable fresher, in the Indian higher education system.

Q.32 Rank in Order for the reasons responsible for Unemployable freshers in India.

Particulars	OC	LOK	LOIE	LOSS	WCC
Outdated Curriculum (OC)	1				
Lack of Knowledge (LOK)	0.515837	1			
Lack of Industrial Exposure (LOIE)	0.598254	0.543957	1		
Lack of Soft Skills (LOSS)	0.387028	0.364614	0.566618	1	
Wrong Career Choices (WCC)	0.187009	0.258186	0.344545	0.668822	1

Table 21 Correlation matrix of the factors responsible for unemployable freshers

Source: Primary Data

- From the above analysis, we found that lack of soft skills and wrong career choices are positively correlated to each other (0.668821623). Also, outdated curriculum and lack of industrial exposure are positively correlated to each other (0.598253684)

3.5.3 ANOVA:

- **Null Hypothesis:** There is no significant difference between the Status/Age/Educational qualifications of the respondent's perception towards the overall output of education.

<i>Source of Variation (Status of the respondent)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	131.4284	4	32.857	37.776316	1.36369E-27	2.3899478
Within Groups	430.54	495	0.8697778			
Total	561.968499					
<i>Source of Variation (Age of the respondent)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	222.22	4	55.555	76.744133	1.30574E-50	2.3899478
Within Groups	358.33	495	0.723899			
Total	580.55	499				
<i>Source of Variation (Independent Variable)</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	302.4124	4	75.603	103.1945	7.41271E-	2.3899478

					64	
Within Groups	362.65	495	0.7326263			
Total	665.062	499				

Table 22 Overall Output and Independent Variables

Source: Primary Data S – Significant at 5% level (p value ≤ 0.05); NS – Not Significant

It is found from the table above that the null hypothesis is rejected in all cases. It means the studied research problem has significance. It is concluded that there exist significant differences between the overall output marked by the respondent with respect to independent factors.

Var code	Teacher	Students	Business	Service	Other	Total	Below 20	20-30	30-40	40-50	Above 50	Total	Under Graduate	Graduate	Post Graduate	PhD/Post Doctoral	Professional Qualification	Total
	20	20	20	20	20	100	17	35	23	20	5	100	23	44	19	5	9	100
RV01	3.90	4.10	4.05	3.35	3.80	3.84	4.24	3.51	4.00	3.80	4.20	3.8	4.17	3.61	3.63	4.40	4.22	3.84
RV02	4.45	4.20	4.35	4.25	4.45	4.34	4.12	4.34	4.43	4.50	4.00	4.3	4.17	4.27	4.58	4.60	4.44	4.34
RV03	4.00	4.15	3.95	3.95	4.30	4.07	4.06	4.14	4.13	3.90	4.00	4.1	4.13	4.02	3.95	4.20	4.33	4.07
RV05	3.80	4.05	4.00	4.45	4.00	4.06	4.06	4.00	4.22	4.00	4.00	4.1	4.00	4.14	3.89	3.80	4.33	4.06
RV06	3.90	3.60	3.95	4.05	4.10	3.92	3.71	3.80	3.87	4.35	4.00	3.9	3.61	3.93	3.74	4.60	4.67	3.92
RV07	2.55	2.70	2.65	3.00	3.60	2.90	2.76	2.94	3.00	2.85	2.80	2.9	2.65	3.16	2.58	3.20	2.78	2.9
RV08	4.05	4.00	3.85	4.10	4.15	4.03	3.71	4.00	4.30	4.05	4.00	4	3.91	4.18	3.79	4.20	4.00	4.03
RV09	3.80	3.90	4.05	3.70	3.85	3.86	3.76	3.80	3.91	3.95	4.00	3.9	3.83	4.00	3.47	4.20	3.89	3.86
EV02	4.00	4.30	4.20	4.15	3.95	4.12	4.18	3.77	4.22	4.50	4.40	4.1	4.22	3.93	4.00	4.60	4.78	4.12
EV03	3.50	3.80	3.80	3.55	3.95	3.72	4.06	3.54	3.91	3.40	4.20	3.7	4.00	3.64	3.58	3.20	4.00	3.72
EV04	4.10	4.35	4.05	4.30	4.35	4.23	4.18	4.14	4.35	4.25	4.40	4.2	4.22	4.23	4.05	4.20	4.67	4.23
CV04	4.15	4.05	4.35	3.95	4.10	4.12	4.06	4.00	4.22	4.10	4.80	4.1	4.00	4.02	4.32	4.20	4.44	4.12
CV05	2.95	2.95	2.75	3.40	2.75	2.96	2.94	3.00	2.96	2.95	2.80	3	2.87	2.98	3.11	2.80	2.89	2.96
CV06	4.15	4.45	4.10	4.30	4.05	4.21	4.35	4.17	4.04	4.20	4.80	4.2	4.35	4.16	4.16	4.20	4.22	4.21
CV07	4.10	4.15	4.10	4.00	4.25	4.12	3.94	4.06	4.22	4.30	4.00	4.1	4.09	4.11	4.11	3.80	4.44	4.12
CV08	4.45	4.25	4.25	4.40	4.50	4.37	4.24	4.51	4.30	4.30	4.40	4.4	4.22	4.50	4.37	3.80	4.44	4.37
CV09	4.00	4.35	4.10	4.05	4.25	4.15	4.24	3.94	4.30	4.25	4.20	4.2	4.26	4.09	3.95	4.80	4.22	4.15
CV10	4.15	3.85	4.00	4.10	4.15	4.05	4.00	4.06	4.09	4.10	3.80	4.1	3.91	4.16	4.11	3.80	3.89	4.05
CV11	3.80	4.15	4.30	3.70	4.20	4.03	4.06	3.91	4.17	4.00	4.20	4	4.17	4.00	3.79	3.40	4.67	4.03
CV12	4.05	4.25	4.15	3.70	3.80	3.99	4.12	3.86	4.22	4.00	3.40	4	4.22	3.95	3.79	3.80	4.11	3.99
CV13	4.00	4.65	4.20	4.25	4.25	4.27	4.53	4.20	4.35	4.15	4.00	4.3	4.57	4.18	4.05	4.20	4.44	4.27
OV02	4.45	4.65	4.25	4.20	4.40	4.39	4.59	4.43	4.52	4.10	4.00	4.4	4.57	4.43	4.16	4.00	4.44	4.39
OV03	4.35	4.30	4.25	4.10	4.25	4.25	4.35	4.11	4.35	4.25	4.40	4.3	4.30	4.16	4.37	3.80	4.56	4.25
OV04	4.15	4.10	4.00	4.05	4.20	4.10	4.12	4.11	4.13	4.00	4.20	4.1	4.22	4.05	4.11	3.60	4.33	4.1
OV05	4.15	4.45	4.35	4.30	4.25	4.30	4.29	4.29	4.35	4.20	4.60	4.3	4.43	4.25	3.95	4.80	4.67	4.3

Table 23 Average score analysis

Source: Primary Data

It is found from the above table that the respondents irrespective of their classification have given the highest level of perception towards the following:

- Industry-Academic Linkage (CV08): The perception of respondents towards CV08 is found high which is 4.37.
- Vocational Aspects of Curriculum Development (OV02): The perception of respondents towards OV02 is found high which is 4.39.

Whereas, from the above table we found that the respondents irrespective of their classification have given the highest level of perception towards the following:

- Education sector government policy (CV05): The perception of respondents towards CV05 is found low which is 2.90.
- Financing Higher Education (RV07): The perception of respondents towards RV07 is found low which is 2.96.

CHAPTER 4: LEARNINGS FOR INDIA FROM DANISH HIGHER EDUCATION

4.1 *Challenges of Indian Higher education system*

▪ **Availability of Resources:**

1. Indian education system lacks need-based development and restructuring of infrastructural facilities as compared to global standards.
2. In India, teachers are well qualified but due to lack of additional resources and further training, the quality of the teaching-learning process is affected.
3. In a Developing country like India, the high cost of HE becomes a hurdle in the growth of the education sector. Due to the limited reach of education policies literacy rate is also affected.

▪ **Comparison of Policy Environment:**

4. In India, students are constrained of their choices which causes confusion and lack of clarity among the students. It is found that education expenditure and political instability is responsible for the barriers in choices.
5. In India, the reach of lifelong learning is limited, which affects improvement in HE.
6. There is a need to increase the value of education in the curriculum so that malpractices and unethical behavior is reduced in society.

▪ **National & International Research Connectivity:**

7. Diversity is a core feature of India but it is found that gender and caste discrimination widely affect the HE.
8. The government is showing very steady growth in making and renewing the policies relating to the educational sector, which is affecting the development of human capital.
9. The discriminative role of Indian society has created a huge difference in educational GPI.
10. India is losing a crucial opportunity of having skilled labors due to less VET

▪ **Analysis of overall output:**

11. Less internship and workshop programs have led to weakening the industry-academic linkage which declines a practical approach.
12. India is losing a crucial opportunity of having skilled labors due to fewer VET programs.
13. Indian education emphasizes more on teaching about technology rather than teaching through technology which eventually results in a less technology developed workforce.
14. It is found that it is necessary to promote entrepreneurship cell and skill hub in HE. Very few universities offer entrepreneurship programs that support young entrepreneurs.

4.2 Lessons for Indian Higher education system – The Danish Way

1. **Revamping infrastructure:** There is an infrastructural gap due to lack of funds is creating hurdles in the way of improving HE. In Denmark, the policies for infrastructural development are made in accordance with the Global policies which make the educational system to improve its status. Such integration of global policies is applicable in India as well because without meeting global standards the quality of HE cannot be met.
2. **Training the facilitators:** In India, teachers are well qualified but due to lack of additional resources and further training, the quality of the teaching-learning process gets affected. Whereas in Denmark proper training is given to a teacher focusing on their specialization field. In India, the teachers' training program has taken place in a nascent stage. So, the Danish training programs can be implemented in India. Within a few years, specific programs can also be implemented once the institutions start to integrate these programs regularly.
3. **Affordable education for all:** In a Developing country like India, the high cost of education becomes a hurdle in the growth of the education sector. But Danish way to tackle this situation is to implement Grant Commission policy, where education loans are granted to students without any interest and the overall cost of education is low. In India Educational loan policy is available, but the reach of such policy is very less. Considering the population of India, the concept of entire free HE cannot be met practically. But assistance can be provided to the students in the form of loans, scholarships, etc.
4. **New generation new choices:** In India right to choose his/her own Educational Field is influenced by various factors, whereas in Denmark, there is freedom to choose because there is a personalized education system. India is a country in which career-related decisions are also influenced by many factors. Thus, to change the mentality of the people to accept courses apart from STEM courses is difficult. But an attempt can be made by setting up seminars and representing the monetary benefits of specific courses and their demand in the outside world. This will not only help the parents and the students but also the society to change as a whole.
5. **Increased Promotion:** The policies and terms made for lifelong learning are not so popular in India. Danish people, do not consider the restriction to learn anything, along with that their reach of government policies are more. Lifelong learning will take time on Indian soil because until and unless the basic education requirements aren't met people won't focus on lifelong learning. The proper development of lifelong learning will start after India will come close to its goal of 100% education. Till that time lifelong learning will be in a nascent stage.
6. **Going back to the roots/ value the values:** In Denmark, ethics and values is considered as core subjects and compulsory at every level. Ethics and values are developed in every Indian in their early lives through scriptures and legends such as Ramayana and Mahabharata. But these need to be implemented in later life as well. Integration of our ethical history in our curriculum by making it compulsory like Denmark can help generate responsible ethical citizens.
7. **Changing the status:** Diversity was a core feature of India, but now the diversity in caste, race, religion, and region is affecting the growth of quality education. Denmark is leading Educational growth because there is no such discrimination in Educational policies based on caste, race, religion and region. Diversity will always play a role in India. India unlike Denmark is home to various sections of the society. Policymaking is tough in India as it is difficult to cater to it.
8. **Government intervention/ initiatives:** The government is showing very steady growth in making and renewing the policies relating to the educational sector, which is affecting the development of human capital. In Denmark, education is the key element for human capital development Danish government,

by providing low cost or free education ensuring entrepreneurship and employment opportunities. Free HE in India is a daunting task but assistance can be provided at every step. We can also learn from the importance given to education to develop human capital.

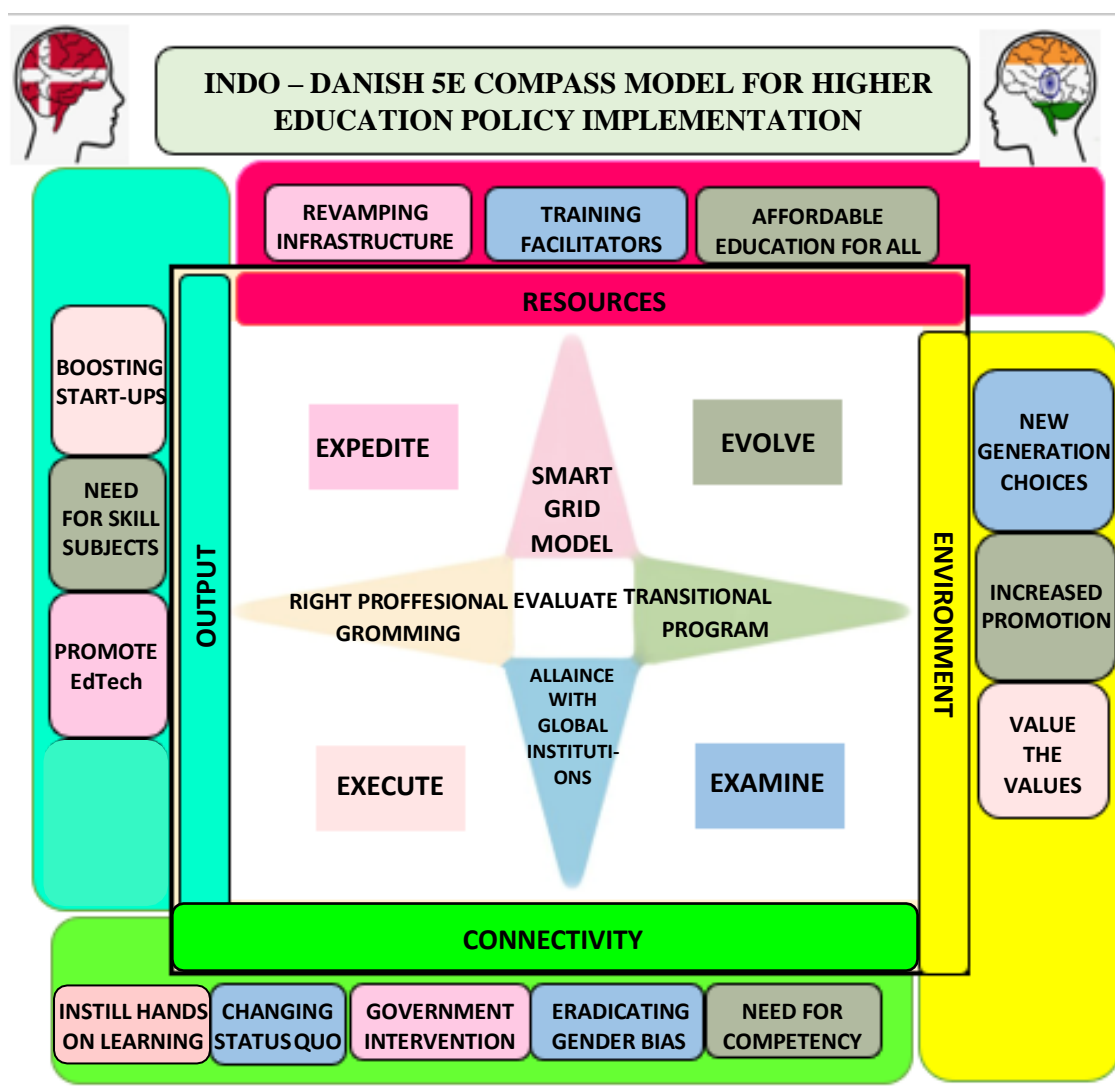
9. ***Eradicating gender biasedness:*** The discriminative role of Indian society creates a huge difference in educational GPI. Whereas in Denmark there is no such restriction based on gender in the field of education. The Mindset of people is the main hurdle, which could be tackled by bringing up a revolutionary change in the mindset of people. This change in mindset is a must and should be implemented in India as it would lead to an increase in equality in education. India needs this equality in terms of education as it will help to transform this large population into an asset.
10. ***Need for competency learning:*** Skill gap is caused due to factors such as lack of training or less application of a potential to work, the Indian workforce has studied moreover theoretical than practical. On the other hand, the Danish workforce is trained practically at HE level. Practical education at a higher level is a must in India as the youth need to in touch with the demand for skills in the market. This will make them a sought-after asset, which in turn would lead to monetary gain.
11. ***Inculcating hands-on learning:*** Problem of theory and practical gap arises due to less practical approach on educational level, which could be talked by giving exposure to the industry at an academic level. In Denmark the industry Academic coverage is well placed. The Knowledge that an individual is grasping at an academic level along with practicing in actuality at industry could provide India with a quality workforce and that leads to a quality HE.
12. ***Need for skill subjects:*** Lack of Vocational aspect of curriculum results in a less skilled workforce in India. Whereas in Denmark special Vocational education and training (VET) programs are in action to provide actual training and for youth development. In India, these vocational courses are external courses that need to be integrated into the curriculum like the Danish system. Bringing such programs in the academic fold will help generate interest in the students and the students will come to know early on about their career prospects and requirements.
13. ***Promoting EdTech:*** Indian curriculum lacks in inculcating technical teachings to the students which give Global exposure to students. In that case of developing technological skills, Denmark has established technological upgradation as per the global standards. Technological skills should be developed in Indian students. These skills need to be percolate to all students which are difficult in a country like India due to its population. Therefore, though the task is steep actions need to be taken accordingly.
14. ***Boosting startups and entrepreneurship:*** Job opportunities are not less in India, but they fall short considering the huge population. Hence, India can tackle the problem of unemployment by creating entrepreneurs, where youngsters won't be searching for jobs but they will create employment opportunities. In Denmark specialized Bachelors and master's program focusing on entrepreneurial development. The current situation is in a very nascent stage with respect entrepreneurial development.

CHAPTER: - 5

TOWARDS NEW HORIZONS

5.1 Indo-Danish 5E compass model for Higher Education policy implementation

Based on lessons from the Danish HE system, suggestions for improvement of the Indian HE system were offered. Many of the suggestive measures offered in this research study are covered to some extent in the New Education policy 2019. But as the implementation plan of the suggestive measures were felt not so clear, we thought of developing an implementation model. Based on the research analysis and findings, we suggest the following model 'Indo- Danish 5E compass model' for giving direction to HE policy implementation:



Indo Danish 5E model is our sincere attempt to provide implementation solutions for the silent suggestions mentioned in the new education policy 2019. A) Danish smart grid model helps to evolve infrastructure by providing modern sustainable solutions. The Smart grid model is all about developing smart universities. Renewable energy such as solar, wind, hydro, etc. can be used to generate electricity

which in turn would lead to the development of smart labs, smart boards, etc. This energy can also be used for developing a college transport system which will help in the connectivity of long distanced students. The universities which will abide/meet by these clean energy requirements will get special grants from the government and aid in the accreditation score. It will also aid in the promotion of the Danish EdTech program via government initiatives. B) The transitional program suggested by us will help to evolve the concept of HE for all, lifelong learning and need for skill subjects by providing bridge courses at the start of each year considering India specific HE problems. C) Alliance with global institutions will help examine the training of facilitators, reduce gender biasness, change the status quo, and most of all will help boost start-ups and bring them on par with the globalized standards. The Danish system is having affiliation with globalized renowned institutions. D) Execution of the right professional grooming will help instill hands on learning and suggest appropriate career moves for aspirants. In the Danish education system, it is integrated from the school level which is the best practice which we suggest for India.

5.2 Ancient Indian education thoughts

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□ □
□ □“

The meaning of this shloka comes out even by playing with the words. It means that, when a person is only literate [sa-ksha-ra] (scholar, but no good manners), that person turns out to be a demon [ra-ksha-sa] during extreme circumstances (by inverting the words). But, a person with etiquettes and manners [sa-ra-sa] (scholar with etiquettes and manners), will always remain a good-natured person even during extreme circumstances (by inverting the words).

Ancient education system focused on skillful citizens rather than literates. The banyan tree on the cover page is a symbol of the Indian Wisdom which is deep rooted to our epical and ethical values. Source of Indian ethos are the strong pillars of ancient education system. The joining of hands shows the India's open mind set to learn from Denmark's higher education by strengthening its current higher education policies. This ultimately results in the maturation of the branches and leaves which represents the growth of human capital in India.

5.3 Conclusion

Education is the backbone of any country that wants to make a mark in today's modern world. Therefore, a close relationship between human capital and economic growth is undeniable. The outcome of this research study will definitely navigate the way in Evolving minds and nurturing development. Our objective was to explore the Danish higher education system and to suggest practical measures for Indian Higher education system which will boost to develop our human capital. According to the U21 2019 rankings, India ranks 49th while Denmark ranks 5th in the overall rankings among 50 countries. After a thorough analysis of samples collected, we came up with 14 significant variables out as challenges to the Indian higher education system. Out of 32 studied variables which were grouped under 4 key factors i.e. availability of resources, comparison of the policy environment, national and international research connectivity, and overall output, 14 variables were found significant. Suitable findings were derived on significant findings keeping in mind the on-ground realities and sustainable solutions were drafted based on Danish HE system. Relating the Danish lessons with the ancient Indian education system was essential. The Ancient Indian HE system not only taught student's necessary life skills but also provided good training to

students in the performance of their social, economic and religious duties. A strong urge was felt on the implementation of the suggestions mentioned in the NEP 2019. Thus, to overcome these problems, the Indo-Danish 5E compass model was proposed to aid in the implementation process. India always had ancient wisdom which was lost due to many years of colonial rule. This ancient wisdom if revived and integrated with the modern solutions from Denmark along with the 5E compass model will navigate India in improving the global rankings. We hope, the suggested implementation model will act as compass in directing the Indian higher education system through its predicament.

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