

## **ANALYTICAL STUDY ON ENGINEERING GRADUATES AND EMPLOYABILITY SKILLS AT ERODE DISTRICT**

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### **ABSTRACT**

The purpose of this article is to study the engineering graduates' employability skills at Erode district. The inconsistency which exists between the education system and the labour market needs (recruiters) were revealed. Engineering Graduates of Erode district are the sample and Erode district is the study area and the sample size is 150. The major findings of this study are that main attributes for enhancing employment opportunity as 'offering value added courses by the higher educational institutions help to get employed' and that there is a significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different medium of instruction at school. The higher educational institutions can embed and resource employability as a key institutional strategy, engaging the expertise of careers advisors and professionals at program and course level.

**Key words:** Employability skill, Higher Educational institutions, Value added courses, Personal attributes.

### **INTRODUCTION**

Education and training create assets in the form of knowledge and skills which increase the productive capacity of manpower which is referred to as human capital. Education is considered to be a process of skill formation and in this aspect it is

treated at par with the process of capital formation. While on the one side we have the world's large stock of scientists, engineers and management graduates, we have been unable to derive full economic benefit from this talent base because of the mismatch between industry needs and university output. Skillful management of the intellectual capital could be the driver for growth and is imperative for Indian economy.

Today's highly technical and sophisticated jobs demand a highly professional candidate who can increase productivity and thereby increase the value of an organization (Busse, 1992). Shift from production oriented engineering jobs to service oriented engineering jobs demands professionals with both sound technical and behavioral skills to attain and retain the job (Hillage J, 1999).

Without a quality human capital, a nation will be weak as there is no human factor that is capable to embark on new initiatives and perspectives. A quality human capital comes from a quality education process. A carefully designed and well planned education system is critical to develop such human capital. Thus, institutions of higher learning play a very important role and the teaching and learning processes. Institutions of higher learning should provide such knowledge and skills to future graduates.

India with more than a billion residents has the third largest education system in the world after China and USA. Education in India falls under the control of both the Union Government and the State Governments, with some responsibilities lying with the Union and the states having autonomy for others.

Curriculum content is criticized as outdated, with much reliance on repetition teaching methods. Students have very little connection to work related opportunities or career preparation. Many feel they study for irrelevant degrees and are unprepared for the world of work as a result. Today graduate unemployment is rising.

The difference between the skills needed on the job and those possessed by applicants, sometimes called the skill-gap, is of real concern to human resource managers and business owners looking to hire competent employees. While employers would prefer to hire people

who are trained and ready to go to work, they are usually not willing to provide the specialized, job-specific training necessary for those lacking such skills.

Today employability is far bigger a challenge than unemployment. Industry leaders feel that the “skills” and “quality” of the workforce need a lot of improvement. Plagued with problems like curriculum, lack of qualified faculty, poor quality of content, and not-so-effective examination system, technical institutions do not provide signaling value in the job market. And hence a disparity exists in the types of skills taught at colleges and those that are demanded in industry.

Employability of Engineering Graduates and their ability to deliver to industry expectation after they are hired has been a matter of concern and engaging the attention of academics and industry alike.

### **STATEMENT OF THE PROBLEM**

Employability of the engineering graduates became a critical issue in the higher educational sector and in labor market. Many engineering graduates lack the required skill expected by the employers at present. Because of this, the engineering graduates are unemployed and on the other hand the employers are not getting the right persons to recruit. So, this study is carried out to analyze the employability skills of the engineering graduates in Erode district.

### **OBJECTIVES OF THE STUDY**

- To study the demographic profile of engineering graduates in Erode district.
- To analyze the impact of engineering education in imparting employability skills of engineering graduates in Erode district.
- To suggest measures for higher educational institutions to enhance employability skills of engineering students.

### **RESEARCH METHODOLOGY**

The formidable systematic task of designing the research problem is the preparation of the

research project, popularly known as the “research design”. Decisions regarding what, where, when, how much and by what means concerning an enquiry or a research study constitute a research design (Kothari,2004). In fact, the research design is the conceptual structure within which the research is conducted. It is the blue print for collection, measurement and analysis of data. The researcher has adopted a descriptive research study since it describes the state of affairs as it exists at present. Both the primary and secondary data are collected and used in the present study.

**Sample size:** The questionnaire was distributed to 150 respondents.

**Sample area:** Erode district.

**Statistical tools:** Percentage Analysis, Chi-square, Weighted average method and ranking method are used in this study.

## DATA ANALYSIS AND INTERPRETATION

**TABLE-1**

### Demographic variables

Variables	Classifications	Frequency	Percentage
<b>Gender</b>	Male	85	57
	Female	65	43
	<b>Total</b>	<b>150</b>	<b>100</b>
<b>Place of Residence</b>	Urban	55	36
	Rural	28	19
	Semi-Urban	38	26
	Semi-Rural	29	19

	<b>Total</b>	<b>150</b>	<b>100</b>
<b>Mode of admission</b>	Counselling	85	57
	Management	65	43
	<b>Total</b>	<b>150</b>	<b>100</b>
<b>Medium of Instruction In School</b>	English	84	56
	Tamil	66	44
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary Data

From the above table it is inferred that out of 150 respondents 57% of the respondents are male, 36% of the respondents resides in urban area, 57% of the respondents admitted through counseling, majority of 56% of the respondents' medium of instruction in school is English.

## RANKING METHOD

TABLE-2

### ATTRIBUTES FOR ENHANCING EMPLOYMENT OPPORTUNITY

S.No	Attributes	Mean score	Rank
1	Engineering course groom as a valued engineer to be employed	49.7	VII
2	Content in the curriculum of the engineering courses provide competencies to get employed	53.5	VI
3	Institute-Industry collaboration will enhance employment opportunities	61.1	II
4	Offering Value added courses by the higher	65.9	I

	educational institutions help to get employed		
5	Relevant curriculum to the need of labor market paves way for employment	55.9	V
6	Engineering courses with more practical classes will help to get employed	59.1	III
7	Including sector specific work placements as an integral part of the study program will improve more employment opportunities	56.9	IV
8	Enhancement of learning skill through activity based learning	40.5	IX
9	Oriented towards Student centric learning	17.0	XI
10	Institutional support for development of creativity, innovation and for patenting	49.4	VIII
11	Institutional Support for Entrepreneurship development	39.8	X

Source: Primary Data

It is concluded from the above table that major attributes for enhancing employment opportunity as ‘offering value added courses by the higher educational institutions help to get employed’ which is ranked first with the Garrett mean score of 65.9. It is followed by the second and third ranks are assigned to ‘institute-industry collaboration will enhance employment opportunities’ and ‘engineering courses with more practical classes will help to get employed’ with the Garrett mean scores of 61.1 and 59.1 respectively. The fourth and fifth ranks are assigned to ‘including sector specific work placements as an integral part of the study program will improve more employment opportunities’ and ‘relevant curriculum to the need of labour market paves way for employment’ respectively. The sixth and seventh ranks are assigned to ‘content in the curriculum of the engineering courses provide competencies to get employed’ and ‘engineering course groom as a valued engineer to be employed’. The eighth and ninth ranks are assigned to ‘institutional support for development of creativity, innovation and for patenting’ and ‘enhancement of learning skill through activity based learning’ with the Garrett mean scores of 49.4 and 40.5 respectively. The tenth and eleventh ranks are assigned to ‘institutional support for

entrepreneurship development' and 'oriented towards student centric learning' with the Garrett mean scores of 39.8 and 17 respectively. It is found from the analysis that majority of the respondents opined that main attributes for enhancing employment opportunity as 'offering value added courses by the higher educational institutions help to get employed'.

### **IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES (KW TEST)**

#### **GENDER AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

In order to find the relationship between the gender of the respondents and their impact of engineering education in imparting personal attributes, a hypothesis is framed and analyzed with the help of 'Kruskal Wallis H' test.

$H_0$  : There is no significant difference in mean score of impact of engineering education in imparting personal attributes between the different category of gender.

**TABLE NO. 4.18**  
**GENDER AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

S.No.	Gender	Number of Respondents	Mean Rank	Kruskal-Wallis H	'p' Value
1.	Male	85	129.80	1.161	0.281 <sup>NS</sup>
2.	Female	65	103.09		
	<b>Total</b>	<b>150</b>			

**Note: NS – Not Significant**

It is showed from the above table that the mean rank score of the impact of engineering education in imparting personal attributes among male graduates as 129.80 and the female graduates have the mean rank score of 103.09 on the impact of engineering education in

imparting personal attributes. It is found from the KW H test that male students have high impact of engineering education in imparting personal attributes.

Due to the 'p' value is greater than 0.05, the null hypothesis is accepted. So, there is no significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different gender.

### **PLACE OF RESIDENCE AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

In order to find the relationship between the place of residence of the respondents and their impact of engineering education in imparting personal attributes, a hypothesis is framed and analyzed with the help of 'Kruskal Wallis H' test.

H<sub>0</sub> : There is no significant difference in mean score of impact of engineering education in imparting personal attributes between the different category of place of residence.

**TABLE NO. 4.20**

### **PLACE OF RESIDENCE AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

<b>S.No.</b>	<b>Place of Residence</b>	<b>Number of Respondents</b>	<b>Mean Rank</b>	<b>Kruskal-Wallis H</b>	<b>'p' Value</b>
1.	Urban	55	148.65	7.174	0.28 <sup>NS</sup>
2.	Rural	28	117.47		
3.	Semi-Urban	38	126.69		
4.	Semi-Rural	29	120.02		
	<b>Total</b>	<b>150</b>			

**Note: NS – Not Significant**



It is evaluated from the above table that the mean rank score of the impact of engineering education in imparting personal attributes among the graduates living in urban area as 148.65 and the graduates residing in rural area have the mean rank score of 117.47 on impact of engineering education in imparting personal attributes. The mean rank score of the impact of engineering education in imparting personal attributes among the students living in semi-urban and semi-rural area as 126.69 and 120.02 respectively. It is found from the KW H test that the respondents from urban area of the residence have high impact of engineering education in imparting personal attributes.

According to the 'p' value is greater than 0.05, the null hypothesis is accepted. So, there is no significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different place of residence.

#### **MEDIUM OF INSTRUCTION AT SCHOOL AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

In order to find the relationship between the medium of instruction at school of the respondents and their impact of engineering education in imparting personal attributes, a hypothesis is framed and analyzed with the help of 'Kruskal Wallis H' test.

$H_0$  : There is no significant difference in mean score of impact of engineering education in imparting personal attributes between the different category of medium of instruction at school.

**TABLE NO. 4.22**

#### **MEDIUM OF INSTRUCTION AT SCHOOL AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

S.No.	Medium of Instruction	Number of Respondents	Mean Rank	Kruskal-Wallis H	'p' Value
1.	Tamil	84	126.51	64.821	0.000*
2.	English	66	113.74		

S.No.	Medium of Instruction	Number of Respondents	Mean Rank	Kruskal-Wallis H	'p' Value
	<b>Total</b>	<b>150</b>			

**Note: \* – Significant at 1% level**

It is inferred from the above table that the mean rank score of the impact of engineering education in imparting personal attributes among the graduates studied in Tamil medium at school as 126.51 and the students studied in English medium have the mean rank score of 113.74 on impact of engineering education in imparting personal attributes. The mean rank score of the impact of engineering education in imparting personal attributes among the students studied in Tamil medium as 126.51. It is found from the KW H test that the students studied in English medium have high impact of engineering education in imparting personal attributes.

According to the 'p' value is lesser than 0.05, the null hypothesis is rejected. So, there is a significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different medium of instruction at school.

### **NATURE OF ADMISSION AND IMPACT OF ENGINEERING EDUCATION IN IMPARTING PERSONAL ATTRIBUTES**

In order to find the relationship between the nature of admission of the respondents and their impact of engineering education in imparting personal attributes, a hypothesis is framed and analysed with the help of 'Kruskal Wallis H' test.

$H_0$  : There is no significant difference in mean score of impact of engineering education in imparting personal attributes between the different category of nature of admission.

**TABLE NO. 4.23**  
**MODE OF ADMISSION AND IMPACT OF ENGINEERING EDUCATION IN**  
**IMPARTING PERSONAL ATTRIBUTES**

S.No.	Nature of Admission	Number of Respondents	Mean Rank	Kruskal-Wallis H	'p' Value
1.	Counselling	85	129.36	36.560	0.000*
2.	Management	65	102.23		
	<b>Total</b>	<b>705</b>			

**Note: \* – Significant at 1% level**

It is discussed from the above table that the mean rank score of the impact of engineering education in imparting personal attributes among the graduates enrolled through counseling as 129.36 and the students enrolled by management have the mean rank score of 102.23. It is found from the KW H test that the students admitted through counseling have high impact of engineering education in imparting personal attributes.

Due to the 'p' value is lesser than 0.05, the null hypothesis is rejected. So, there is a significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different mode of admission.

## **FINDINGS**

- From the analysis, it is obtained that the majority of the respondents are male.
- It is revealed from the analysis that the majority of the respondents are residing in urban area.
- From the analysis, it is explored that the majority of the respondents have studied in English medium at school.
- It is found from the analysis that the majority of the respondents have enrolled through counselling for their courses.
- From the Garret ranking analysis, it is observed that most of the respondents' main attributes for enhancing employment opportunity as 'offering value added courses by the higher educational institutions help to get employed'.

- It is confirmed from the KW H test that male graduates have high impact of engineering education in imparting personal attributes. Hence, there is no significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different gender.
- It is observed from the KW H test that the respondents from urban area of the residence have high impact of engineering education in imparting personal attributes. Hence, there is no significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different place of residence.
- It is noted from the KW H test that the students studied in English medium have high impact of engineering education in imparting personal attributes. Thus, there is a significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different medium of instruction at school.
- It is revealed from the KW H test that the students admitted through counselling have high impact of engineering education in imparting personal attributes. Hence, there is a significant difference in mean score of impact of engineering education in imparting personal attributes of the respondents between the different nature of admission.

## SUGGESTIONS

- It is found from the study that the students schooling in semi-urban area are having maximum level impact of engineering education in imparting technical know-how. So, the heads of departments should focus the students schooling in rural area also to get application knowledge and solving engineering problems.
- It is evaluated from the findings that the students enrolled by counselling are having maximum level impact of engineering education in imparting technical know-how because they have moral knowledge of mathematics and science. Therefore, the colleges should give more attention to the management students on their engineering programs and development of technical competence.

- Skill assessment of the engineering students must be arranged in every academic year of the course to confirm periodic improvement of students and further it will create awareness among the students about the important employability skills.
- The higher educational institutions can embed and resource employability as a key institutional strategy, engaging the expertise of careers advisors and professionals at program and course level.

## CONCLUSION

The nation's current employment crisis is the result of the cumulative inability to achieve an effective connection between graduation and jobs. There are multifaceted reasons for this apparent disarticulation between school and work. Three key players are expected to work in tandem if the world of learning is to be effectively linked to the world of work in the tertiary sector. These are manpower and employment planners, the producers of manpower and employers. These agents form the tripod for pursuing and achieving a school to work alignment. The Nigerian government should focus more on manpower planning, and implementation of employment-oriented policies and programmes. There should be periodic reviews of the curricula and programmes of tertiary institutions to make them relevant to existing gaps and responsive to changing societal needs, including the dictates of the information technology and globalization.

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