

# A STUDY ON EMPLOYABILITY SKILLS OF ENGINEERING STUDENTS AND THE EXPECTATIONS OF EMPLOYERS

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## Abstract

*Professional course creates not only an asset but also this form pool of knowledge as well as different skill sets. The education improves the productivity and capacity of manpower and these may popularly refer as human capital. The main purpose of this study is aimed to identify various employability skills that are required by engineering graduates and how these can be a value addition through effective knowledge management in terms of curriculum, teaching, evaluation process and feedback mechanisms. This study explores to the employability skills of engineering students through self-assessment and the expectations of employers. Further this study examines the gap between the employability skills of engineering students and the expectations of the industry. In order to collect the primary data, two different sets of questionnaires were used one set of questionnaires was given to engineering students and another set of questionnaires was given to job recruiters. The sampling design is the non-probability sampling. The sampling size from 21 respondents was taken to conduct a pilot study and the reliability test was conducted by using the Cronbach Alpha Analysis.*

**Keywords:** : Engineering student, Employability skill, Employer's perception

## 1. Introduction

Employability skills can be defined as the knowledge skills needed by an individual to get employment. Apart from the good technical understanding and subject knowledge, the employer expects a set of skills from job applicants. According to employers getting the right people means identifying people with the right skill and qualities to the roles in the organization success. An employer can benefit in many ways if he has soft skills such as, strong communication, self-confident and interpersonal skills.

## 2. Objective of the study

- To study the level of employability skill of engineering students in the study area.
- To identify the attributes looked upon by the companies among the engineering students.
- To identify the gap between in the skill expected and observed among engineering students.

## 3. Review of Literature

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## 4. Hypothesis Setting

1. H0: There is no significant relationship between personal skills of engineering students and the expectation of employers.
2. H0: There is no significant relationship between interpersonal skills of engineering students and the expectation of employers.
3. H0: There is no significant relationship between technical skills of engineering student and the expectation of employers.
4. H0: There is no significant relationship between high ordering skills of engineering students and the expectation of employers.
5. H0: There is no significant relationship between problem solving skills of engineering students and the expectation of employers.

## 5. Research Methodology

### Research design

**Descriptive study:** A descriptive research is an observational study which describes the characteristics of the population that is being studied.

**Types of data:** The study was conducted with the primary data that were collected through a structured questionnaire from various respondents in the study area.

**Methods of Data Collection:** The data were collected through a structured questionnaire. Likert scale with the options of open and close end questionnaires.

**Sampling Design:** The sampling design is the non-probability sampling. The sampling size from 21 respondents was taken to conduct a pilot study and the reliability test was conducted by using the Cronbach Alpha Analysis.

### Reliability Statistics

#### Reliability Statistics

Cronbach's Alpha	N of Items
.755	40

**Statistical Tools Used:** For the purposes of analysis the following statistical tools were applied to interpret and find results

### Results and Discussions

#### Correlation

Hypothesis: 1

H0: There are no significant relationship between personal skills of engineering students and the expectation employers.

#### Correlations

		flexible_plan	Initiative
Flexible plan	Pearson Correlation	1	-.056
	Sig. (2-tailed)		.809
	N	21	21
Initiative	Pearson Correlation	-.056	1
	Sig. (2-tailed)	.809	
	N	21	21

H0: The result of personal skills correlation analysis is negative so about hypothesis is rejected.

Hypothesis 2:

H0: There are no significant relationship between interpersonal skills of engineering students and the expectation employers.

**Correlations**

		commuicate_effectivel y	Communicate
commuicate_effectively	Pearson Correlation	1	.266
	Sig. (2-tailed)		.245
	N	21	21
Communicate	Pearson Correlation	.266	1
	Sig. (2-tailed)	.245	
	N	21	21

H0: The result of interpersonal skills correlation analysis is negative so about hypothesis is rejected.

Hypothesis: 3

H0: There are no significant relationship between technical skills of engineering students and the expectation of employers.

**Correlations**

		design_system	Formulate
design_system	Pearson Correlation	1	-.139
	Sig. (2-tailed)		.549
	N	21	21
Formulate	Pearson Correlation	-.139	1
	Sig. (2-tailed)	.549	
	N	21	21

H0: The result of design system correlation analysis is negative so about hypothesis is rejected.

Hypothesis: 4

H0: There is no significant relationship between the high order skills of engineering students and the expectation of employers.

**Correlations**

		Creativity	Innovation
Creativity	Pearson Correlation	1	.474*
	Sig. (2-tailed)		.030
	N	21	21
Innovation	Pearson Correlation	.474*	1
	Sig. (2-tailed)	.030	
	N	21	21

\*. Correlation is significant at the 0.05 level (2-tailed).

H1: The result of high order skills analysis is positive so about hypothesis is accepted.

Hypothesis: 5

H0: There is no significant relationship between problem solving skills of engineering students and the expectation of employers.

		Formulation	Identification
Formulation	Pearson Correlation	1	.151
	Sig. (2-tailed)		.514
	N	21	21
Identification	Pearson Correlation	.151	1
	Sig. (2-tailed)	.514	
	N	21	21

H0: The result of problem-solving correlation analysis is negative so about hypothesis is rejected.

**Finding of the study**

The table N0.1 shows that the majority of respondents 81.0% have strongly agree that the students are having self-discipline.

The table N0.2 shows that the majority of respondents 57.1% have strongly agree that the students are having initiative skills.

The table N0.3 shows that the majority of respondents 66.7% have strongly agree that the students are flexible plan.

The table N0.4 shows that the majority of respondents 52.4% have strongly agree that the students are planning.

The table N0.5 shows that the majority of respondents of 47.6% have strongly agree that the students are communication skills.

The table N0.6 shows that the majority of respondents of 57.1% have agree that the students are capacity of leader.

The table N0.7 shows that the majority of respondents of 42.9% have agree that the students are multidisciplinary teams.

The table N0.8 shows that the majority of respondents of 47.6% have agree that the students are ability to resolve conflicts.

The table N0.9 shows that the majority of respondents of 47.6% have agree that the students are design system.

The table N0.10 shows that the majority of respondents of 47.6% have agree that the students are identify formulate.

The table N0.11 shows that the majority of respondents of 47.6% have agree that the students are knowledge of mathematics science.

The table N0.12 shows that the majority of respondents of 38.1% have strongly agree that the students are competence in a specific.

The table N0.13 shows that the majority of respondents of 52.4% have strongly agree that the students are creativity and innovation.

The table N0.14 shows that the majority of respondents of 42.9% have strongly agree that the students are strategic thinking skills.

The table N0.15 shows that the majority of respondents of 42.9% have strongly agree that the students are ethical responsibility.

The table N0.16 shows that the majority of respondents of 42.9% have strongly agree that the students are global and environmental.

The table N0.17 shows that the majority of respondents of 47.6% have agree that the students are information and documentation.

The table N0.18 shows that the majority of respondents of 52.4% have agree that the students are problem identification.

The table N0.19 shows that the majority of respondents of 33.3% have strongly agree that the students are risk taking.

The table N0.20 shows that the majority of respondents of 61.9% have strongly agree that the students are pick up new skills and adapt to new situations.

The table N0.1 shows that the majority of respondents of 95.2% have female that the students are gender.

The table N0.2 shows that the majority of respondents of 81.0% have strongly agree that the students are self-discipline.

The table N0.3 shows that the majority of respondents of 52.4% haveagree that the students are flexible plan.

The table N0.4 shows that the majority of respondents of 52.4% have strongly agree that the students are initiative and responsibility.

The table N0.5 shows that the majority of respondents of 57.1% have strongly agree that the students are communicate effectively.

The table N0.6 shows that the majority of respondents of 52.4% have agree that the students are capacity leader.

The table N0.7 shows that the majority of respondents of 47.6% have agree that the students are multidisciplinary teams.

The table N0.8 shows that the majority of respondents of 42.9% have strongly agree that the students are conflicts within team.

The table N0.9 shows that the majority of respondents of 47.6% have agree that the students are design system.

The table N0.10 shows that the majority of respondents of 42.9% have agree that the students are identify the problem.

The table N0.11 shows that the majority of respondents of 42.9% have strongly agree that the students are knowledge.

The table N0.12 shows that the majority of respondents of 42.9% have strongly agree that the students are technical competence.

The table N0.13 shows that the majority of respondents of 57.1% have strongly agree that the students are creativity.

The table N0.14 shows that the majority of respondents of 47.6% have strongly agree that the students are strategic thinking.

The table N0.15 shows that the majority of respondents of 42.9% have strongly agree that the students are professional ethical.

The table N0.16 shows that the majority of respondents of 42.9% have strongly agree that the students are environment responsibility.

The table N0.17 shows that the majority of respondents of 52.4% have agree that the students are manage information and documentation.

The table N0.18 shows that the majority of respondents of 47.6% have agree that the students are formulation and solution.

The table N0.19 shows that the majority of respondents of 33.3% have agree that the students are risk taking.

The table N0.20 shows that the majority of respondents of % have strongly agree that the students are adapt to new situation.

## **Conclusion**

The selection of employability skills in the engineering students had be studied and the employer's expectation to employment the candidates by the descriptive study. This helps to give an more idea for the engineering students about employability skills. This study helps to understand the concept of employability skills in students and employers'

expectations to recruit the candidates. For the future study this paper can implement and by using the correlation can be apply and help to improve the employability skills.

### Annexure Percentage Analysis of the Student

S.NO	Particular	Male	Female	Total			
1.	Gender	4.8	95.2	100			
S.NO	Particular	SD	D	N	A	SA	Total
2.	Self-discipline	4.8		4.8	9.5	81.0	100.0
3.	Flexible plan			19.0	52.4	28.6	100.0
4.	Initiative and responsibility			4.8	42.9	52.4	100.0
5.	Planning and organizing			9.5	38.1	52.4	100.0
6.	Communicate effectively			4.8	38.1	52.4	100.0
7.	Capacity leader			28.6	52.4	19.0	100.0
8.	Multidisciplinary teams			14.3	47.6	38.1	100.0
9.	Conflicts			19.0	38.1	42.9	100.0
10.	Design system		9.5	9.5	47.6	33.3	100.0
11.	Identify problem			33.3	42.9	23.8	100.0
12.	Knowledge		4.8	14.3	38.1	42.9	100.0
13.	Technical competence		4.8	14.3	38.1	42.9	100.0
14.	Creativity		9.5	9.5	23.8	57.1	100.0
15.	Strategic thinking			28.6	23.8	47.6	100.0
16.	Professional ethical			23.8	33.3	42.9	100.0
17.	Environment responsibility	4.8	4.8	14.3	33.3	42.9	100.0
18.	Manage information		4.8	33.3	52.4	9.5	100.0
19.	Formulation		4.8	19.0	47.6	28.6	100.0
20.	Risk taking	9.5	9.5	23.8	33.3	23.8	100.0
21.	Adapt new situation			14.3	23.8	61.9	100.0



**Percentage Analysis of Employer's**

S.NO	Particular	SD	D	N	A	SA	Total
1.	Skills		4.8	4.8	9.5	81.0	100.0
2.	Initiative	4.8		19.0	57.1	19.0	100.0
3.	Flexible			4.8	28.6	66.7	100.0
4.	Planning			14.3	33.3	52.4	100.0
5.	Communication			14.3	38.1	47.6	100.0
6.	Capacity			33.3	57.1	9.5	100.0
7.	Team		4.8	23.8	42.9	28.6	100.0
8.	Ability	4.8		14.3	47.6	33.3	100.0
9.	Design		4.8	14.3	47.6	33.3	100.0
10.	Formulate			33.3	47.6	19.0	100.0
11.	Mathematics		4.8	14.3	47.6	33.3	100.0
12.	Specific		4.8	19.0	38.1	38.1	100.0
13.	Innovation		9.5	19.0	19.0	52.4	100.0
14.	Strategic			33.3	23.8	42.9	100.0
15.	Ethical			23.8	33.3	42.9	100.0
16.	Global	4.8	4.8	14.3	33.3	42.9	100.0
17.	Documentation		4.8	38.1	47.6	9.5	100.0
18.	Identification		4.8	9.5	52.4	33.3	100.0
19.	Risk	4.8	14.3	23.8	23.8	33.3	100.0
20.	Pick			14.3	23.8	61.9	100.0

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