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Career Goals Development and Placement Training of Engineering Students with Reference to Erode District

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ABSTRACT: The current study examines the discrepancy between faculty's expectations regarding students' employability abilities and engineering education. Therefore, there are concerns about how engineering education can be used to a future employment. The core idea of the social cognitive theory is "efficacy of self." The belief in one's capacity to carry out actions and the expectation that those actions will produce the desired results is known as efficacy of self. The primary rationale behind the model's selection is its proven ability to accurately forecast academic and professional choices, particularly for the student body. Because so many researchers used this methodology to conduct their research, the study also turned out to be the best.

KEYWORDS: Education, Employment, Interview, Placement and Training.

I. INTRODUCTION

In the competitive landscape of engineering education, the formulation of career goals and the efficacy of placement training are pivotal to student success. This study focuses on the engineering students of Erode district, examining how their career aspirations are shaped and honed through targeted placement programs. By analyzing the strategies and outcomes of these initiatives, the research aims to highlight the critical factors contributing to successful career placements. Ultimately, this study aspires to bridge the gap between academic preparation and professional achievement for engineering graduates in Erode.

STATEMENT OF THE PROBLEM

India's engineering students are saved by the information technology sector.

The rise of the IT/ITES sectors in India cannot be compared to that of any other industry in terms of business volume or use of human resources. The IT sector, which has grown steadily for the past three decades, has had an impact on both the nation's and each individual citizen's economic situation. However, a void has been established. Two significant regions show the differences. A few thousand new engineering seats are added to the total number of engineering seats each year as new engineering institutions open. Every year at the completion of the admissions counselling process, a few lakh seats remain unfilled. However, compared to the first difference, there are more issues with the second one. According to statistics data, a mere 17.45% of engineering students who successfully complete their course qualify for employment. The current study examines the discrepancy between faculty's expectations regarding students' employability abilities and engineering education. Therefore, there are concerns about how engineering education can be used to a future employment.

OBJECTIVES OF THE STUDY

- To equip students with essential employability skills such as communication, teamwork, problem-solving, and critical thinking to ensure they meet industry expectations and can effectively contribute to their future workplaces.
- To provide specialized training and hands-on experience in industry-relevant technical skills and tools, ensuring students are proficient in the latest technologies and methodologies pertinent to their field of engineering.

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SCOPE OF THE STUDY

Incorporate soft skills training into the curriculum through courses and workshops, emphasizing project-based learning and interdisciplinary projects. Provide continuous assessment and feedback to help students improve communication, teamwork, problem-solving, and critical thinking skills and offer hands-on training, internships, and continuous professional development opportunities.

LIMITATIONS OF THE STUDY

The sample represents a diverse group of students from various parts of India with different cultural backgrounds and languages. This diversity can provide rich insights into how efficacy of self-varies across different cultural contexts within India.

II. REVIEW OF LITERTAURE

Bonitz et al (2010) posts about SCCT are that it predominantly emphasizes on the role of learning experiences, environmental impact and cognitive factors in the growth of vocational interests.

Rajabi and his colleagues (2012) assumes about SCCT is based on personal, cognitive and environmental parameters. They observed that behavior is a function of personal factor, learning experiences, Efficacy of self-beliefs, Expectations of outcomes, interests, environmental norms and also intentions.

III. RESEARCH METHODOLOGY

The process used to collect information and data for making business decisions involves various methodologies. These may include publication research, interviews, surveys, and other research techniques, encompassing both historical and present information. The goal of the research process is to produce new knowledge or depend understanding of a topic or issue

RESEARCH DESIGN:

A research design is the setup of parameters for data collection and analysis with the goal of balancing procedural economy with relevance to the research question. Data was collected from the students in Erode various colleges.

DESCRIPTIVE RESEARCH DESIGN:

The goal of descriptive research is to precisely and methodically characterize a population, circumstance, or phenomena. It can respond to inquiries about what, where, when, and how, but not why. A descriptive research design can use a wide variety of research methods to investigate one or more variables.

SAMPLE SIZE:

The sample of 100 in this study.

DATA COLLECTION METHOD:

- Primary data source
- Secondary data source

STATISTICAL TOOLS USED:

1. Correlation
2. Factor analysis method

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IV. ANALYSIS AND INTERPRETATION

CORRELATION TEST FOR AGE (1st year to final year and above) WITH SPELIZED TRAINING FOR THE STUDENTS

X= AGE
Y= SPECIALIZED TRAINING

AGE	SPECIALIZED TRAINING
23	11
27	26
17	14
21	33
12	16

	AGE	SPECIALIZED TRAINING
AGE	1	0.369274
SPECIALIZED TRAINING	0.369274	1

INTERPRETATION
To interpret the correlation between the age of the students (X) and the specialized training they got (Y), we observe a correlation coefficient of 0.369274. This indicates a moderate positive correlation, suggesting that as the age increases, the specialized training tends to improve. However, the correlation is not very strong, implying that other factors might also significantly influence the specialized training.

FACTOR ANALYSIS

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.569
Bartlett's Test of Sphericity	Approx. Chi-Square	56.615
	Df	45
	Sig.	.115

Communalities		
	Initial	Extraction
Preparing industry-standard tools and software	1.000	.575
Integrating current industry trends and practices	1.000	.589

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Developing clear, actionable career plans	1.000	.511
Addressing their individual career goals and aspirations	1.000	.563
Handling difficult interview questions	1.000	.546
Preparing for the professional engineering environment	1.000	.442
Enhancing and understanding of industry-relevant technical skills	1.000	.424
Identifying suitable career paths	1.000	.495
Creating an impactful resume	1.000	.679
Opportunities to connect with potential employers	1.000	.640

Extraction Method: Principal Component Analysis

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.808	18.077	18.077	1.808	18.077	18.077
2	1.344	13.435	31.512	1.344	13.435	31.512
3	1.216	12.164	43.676	1.216	12.164	43.676
4	1.096	10.961	54.637	1.096	10.961	54.637
5	.981	9.808	64.446			
6	.856	8.560	73.005			
7	.755	7.549	80.554			
8	.733	7.325	87.879			
9	.639	6.395	94.274			
10	.573	5.726	100.000			

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %

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1	1.611	16.107	16.107
2	1.418	14.179	30.287
3	1.298	12.981	43.268
4	1.137	11.370	54.637

Extraction Method: Principal Component Analysis.

Component Matrix				
	Component			
	1	2	3	4
Preparing industry-standard tools and software	.650			
Integrating current industry trends and practices	.563			
Developing clear, actionable career plans	.521			
Addressing their individual career goals and aspirations				
Handling difficult interview questions		.665		
Preparing for the professional engineering environment		.592		
Enhancing and understanding of industry-relevant technical skills				
Identifying suitable career paths			-.642	
Creating an impactful resume				.705
Opportunities to connect with potential employers				-.536

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Extraction Method: Principal Component Analysis

4 components extracted.

Rotated Component Matrix				
	Component			
	1	2	3	4
Preparing industry-standard tools and software	.753			
Integrating current industry trends and practices	.620			
Developing clear, actionable career plans	.527			
Addressing their individual career goals and aspirations				
Handling difficult interview questions		.748		
Preparing for the professional engineering environment		.609		
Enhancing and understanding of industry-relevant technical skills				
Identifying suitable career paths			.750	
Creating an impactful resume			.649	
Opportunities to connect with potential employers				.822

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization
Rotation converged in 7 iterations.

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Component Transformation Matrix				
Component	1	2	3	4
1	.789	.452	.400	.117
2	-.531	.801	.200	-.193
3	.124	.387	-.808	.427
4	-.283	-.072	.384	.876

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

INTERPRETATION

The KMO value of 0.569 suggests mediocre sampling adequacy, while Bartlett's test (p=0.115) indicates the correlations are not sufficiently large for PCA. The communalities show moderate extraction values, indicating variable contributions to factors. Four principal components explain 54.64% of the variance, with key variables loading distinctly on each component, highlighting diverse aspects of the training and guidance effectiveness.

V. CONLUSION

To bridge the gap between career choices and practical training, educational institutions should focus on enhancing the quality and relevance of hands-on experiences, improving career guidance events, and upgrading training facilities. By doing so, they can better prepare students for professional environments and increase their employability, ultimately fostering a more capable and confident future workforce.

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