

Effect of Soft Skill Training on Competency Development of Students in Selected Private Engineering Colleges in Chennai City

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I. Introduction

In today's competitive world, it is highly significant for the students to undergo training in various fields during their academic activities. Various universities included in their course curriculum different training programs to develop competency level of the students. Learning technical skills alone is not enough for engineering students to get job offers in international companies. After entering the organization, they face with relatively challenging situation in communicating with the people, adjusting to their culture and in maintaining inter-personal relations in a multidisciplinary environment. Without coping up with these challenges, it is difficult for them to sustain in multinational culture, even if possessed with high range of technical skills. To mould and develop the students with respect to their personality and competency skills according to the job requirements of an organization, soft skill training is considered as a best choice for the academicians. But, developing the soft skills of engineering students is not an easy job like development of technical skills. This is because, engineering students need to learn the assent of many countries due to the availability of larger scope in the counties namely USA, London, Canada etc. They should be proficient in communication skills, inter-personal skills, leadership skills, creative thinking, problem solving skills, teamwork, decision making skills etc. To stand out as promising assets to multinational organizations, they need to carve out these skills by practicing every day and it takes long time to build a lucrative professional career. These abilities are linked to personality traits which help engineering students to enhance their intelligence quotient with a strong sense of empathy and transform them into expected and outstanding corporate resources.

II. Problem Definition

Multinational companies open the door to the engineering students by offering wide range of jobs especially for the fresher. The first and foremost thing an engineer needs it to have substantial knowledge in their field of study. Obtaining excellent grade in their degree certificate is only shows their core knowledge and it has moderate relationship with job opportunities in their field. The fact is that proficiency in academic knowledge does not assure its application in solving practical issues faced by the students. Hence, it is necessary for the engineers to update their knowledge and skill according to the requirements of offers available in the country and outside. Among all, the foremost skill to get developed to come up with innovative ideas, effective interchange of these ideas and to link knowledge

proficiently to take efficient decision making in the organization is to have soft skill training. Thus, developing soft skills are considered as an auxiliary need for engineering to speak, to manage, to interact and to share ideas. As they move upwards in their career they must acquire an understanding of all the aspects of the industry in order to manage efficiently. The study has been undertaken to assess the effectiveness of soft skill training provided to engineering college students and its impact on their overall development of competency in Chennai city.

III. Significance of the Study

This study edifies the importance of soft skill training program to aid the students to enhance their emotional quotient which enable them to look at every situation in an objective manner. It evidently shows the relationship between soft skill training and competency development of students in engineering colleges analytically which aid the colleges to understand the consequence of soft skill training on development of students to face their career all over the world. The study measures the level of effectiveness of soft skill training which helps the engineering colleges to modify or alter the soft skill training provided by them to overcome its shortcomings.

IV. Scope of the Study

The scope of the study is to study the effect of soft skill training on competency development among engineering students. The study covers randomly chosen selected private engineering colleges of Chennai city. In order to find out the direct impact of soft skill training on competency development of engineering students, the soft skill training areas chosen for the study are emotional intelligence, problem solving capacity, time management, interpersonal skills, leadership qualities, communication skills, stress management skills and decision making skills.

V. Objectives of the Study

- To study the demographic factors of the students studying in private engineering colleges of Chennai city
- To measure the level of effectiveness of soft skill training offered to engineering students of private colleges at Chennai city
- To find out the significant difference between demographic factors, soft skill training effectiveness and competency development of students
- To identify the impact of soft skill training on competency development of students
- To suggest possible ideas to modify the soft skill training program in order to enhance the competency level of students

VI. Review of Literature

Daggubati Vasanth Choudary (2014) examined the significance of soft skill training for engineering students in Andhra Pradesh. Based on the survey, it is found that 70% of student undergone soft skill training during their study period found better job opportunities; 96% of the students said that to succeed in their career it is better to have good communication and interpersonal skills, 30% of the students said that hard skills training is used to create job opportunities at multinational level. The study concluded that apart from academic and technical knowledge students also need soft skills to excel in life.

Inês Direito, et. al. (2012) examined the evaluation done by undergraduates with respect to their current proficiency and also identified their perception on significance of soft skills with respect to their career opportunities. The study found that there exist a gap between the soft skill needed for career growth and their academic profile. It is identified from the analysis that perceived ability in soft skills has a strong bond with preferences in learning styles. The study concluded that effective instruction, using methodologies focused on learning styles, could be planned and implemented to adapt to the differences in key skills.

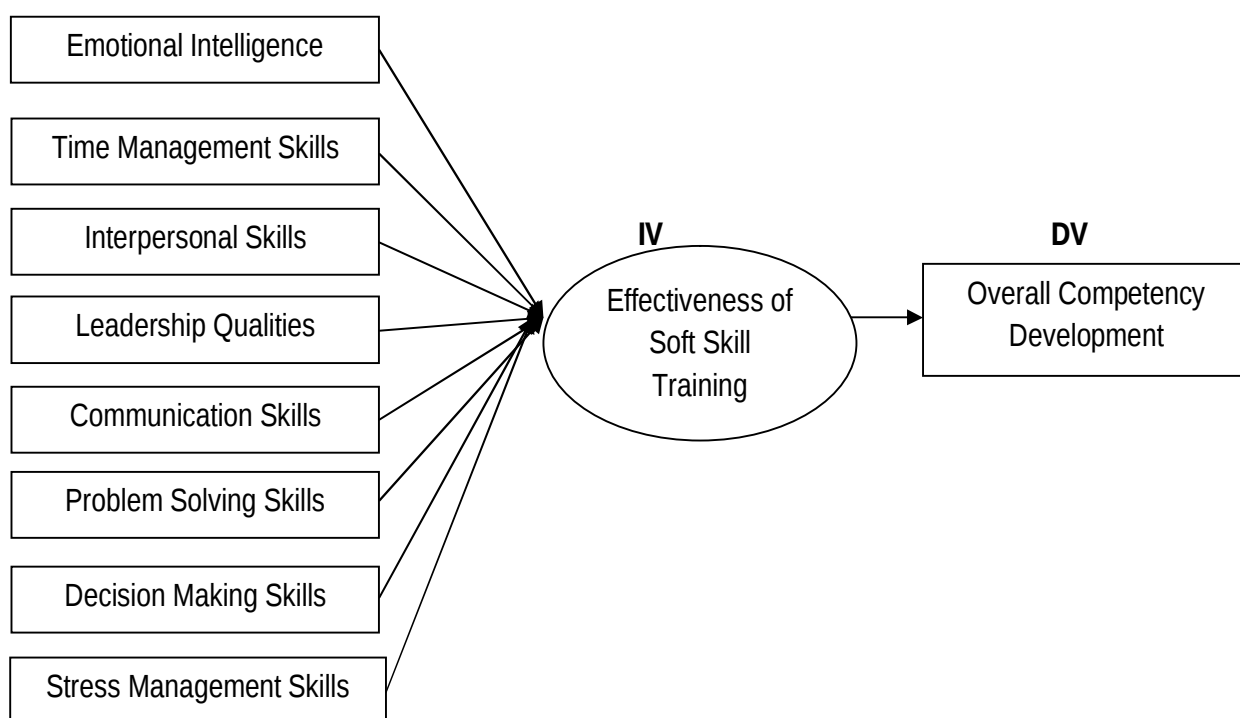
Hillmer, G, et. al. (2007) described the development of training program, a series of eight communication and soft skills courses, project management and leadership courses. The study concluded that a group of full-time professors and external lecturers from various backgrounds (engineering, business, law, and other professional trainers) were created to evolve and further refine the training concept based on the requirements of industry. The training concept is appreciated by managers and leaders of relevant companies and recognized the holistic approach in engineering program. So the value that soft skills bring into the career of engineering students have been highly rated.

Ai-Hwa (2005) in his article he shows that in order to be effective in one's work place one has to utilize soft skills. He goes on to say that subject knowledge has been taught effectively through the curriculum in the school and college level education. Even the higher education ministry recommends to have soft skills to be imparted in college and university level. If students without soft skills go in for job, they would turn out to be great loss for the nation. High-quality, competitive and ambitious human capital is vital for the country's development.

Nizer, N. (2005) in his study suggested that soft skills namely critical and inventive thinking skills, downside resolution skills, communication skills, cluster work skills ought to be applied and learned by all students along with their academic curriculum activities. Besides, he signified that soft skills are essential in providing the students with an atmosphere of real working conditions.

Bandura, A. (1999) in his study found that self-efficacy has self-efficacy could be an instrument of an individual's confidence comprising the convictions of a person with regard to the execution capacity in a particular space. Self-efficacy in this sense can be defined as a planned parameter dependent on competence that predicts behavior.

VII. Conceptual Framework



VIII. Research Methodology

The research design carried out for the study is analytical in nature. The primary data was collected through self-administered open and closed ended questionnaires. The secondary data was collected from newspapers, thesis, journals, books, articles and internet. The sample size of the study is 200 students from private engineering colleges of Chennai city. Stratified random sampling technique was used to collect data from the respondents. Statistical analysis namely Descriptive, Multivariate Analysis of Variance (MANOVA), Multiple Regression and Friedman Test were applied by using SPSS to find out the impact of soft skill training on the competency development of engineering students.

IX. Hypothesis Setting

H₁₁: There is a significant difference between demographic factors, soft skill training effectiveness and overall competency development of students.

H₁₂: There is a significant impact of soft skill training on overall competency development of students.

X. Analysis and Interpretation**a. Reliability Test****Table 10.1**

S. No.	Scale	No. of Items	Cronbach's Alpha (α)
I.	Effectiveness of Soft Skill Training		
a.	Emotional Intelligence	5	0.851
b.	Time Management Skills	5	0.962
c.	Inter-personal Skills	5	0.940
d.	Leadership Qualities	5	0.900
e.	Communication Skills	5	0.874
f.	Problem Solving Skills	5	0.828
g.	Decision Making Skills	5	0.880
h.	Stress Management Skills	5	0.955
II.	Overall Competency Development	10	0.973

[Source: Primary data]

Based on the table 10.1, the Cronbach's Alpha reliability was more than 80% for all the variables. Hence, it is found that by doing repeated measurements consistent results will be obtained from all the variables.

b. Descriptive Statistics

In order to evaluate the effectiveness of soft skill training and overall competency development of students, descriptive statistics is applied.

Table 10.2

S. No.	Scale	N	Min	Max	Mean	S. D.
I.	Effectiveness of Soft Skill Training					
a.	Emotional Intelligence	200	1	5	3.01	1.09
b.	Time Management Skills	200	1	5	3.17	1.33
c.	Inter-personal Skills	200	1	5	3.23	1.03
d.	Leadership Qualities	200	1	5	3.16	1.08
e.	Communication Skills	200	1	5	3.28	1.20
f.	Problem Solving Skills	200	1	5	3.12	1.00
g.	Decision Making Skills	200	1	5	3.19	1.11
h.	Stress Management Skills	200	1	5	3.08	1.25
II.	Overall Competency Development	200	1	10	3.14	1.16

[Source: Primary data]

From the above table, the mean value of all the factors of effectiveness of soft skill training are below 3.50, which means the effectiveness of soft skill training provided by engineering colleges are at average level. From the mean value, communication skills (3.28) and interpersonal skills(3.23) are considered to be the somewhat effectively provided soft skill training to the students of private engineering colleges. The mean value of overall competency development of the students is below 3.50, which indicates there is a minimal development of in competency level among the engineering students after attending soft skill training program..

c. Multivariate Analysis Of Variance (MANOVA)

In order to identify the significant difference between demographic factors, soft skill training effectiveness and competency development of students, MANOVA test is applied.

H_{01} : There is no significant difference between demographic factors, soft skill training effectiveness and overall competency development of students.

H_{11} : There is a significant difference between demographic factors, soft skill training effectiveness and overall competency development of students.

Table 10.3
Demographic Factors with Soft Skill Training Effectiveness and Overall Competency Development of Students

Socio-economic Factors	Variables	F	P value
Gender	Effectiveness of Soft Skill Training	11.418	0.005**
	Overall Competency Development	10.251	0.004**
Department	Effectiveness of Soft Skill Training	30.809	0.007**
	Overall Competency Development	29.569	0.008**
Area	Effectiveness of Soft Skill Training	15.050	0.003**
	Overall Competency Development	17.114	0.001**

Note: ** Significant at 1% level

Since P value is less than 0.001, the alternate hypothesis is accepted at 1 per cent level of significance. Hence it is concluded that there is a significant difference between demographic factors with soft skill training effectiveness and overall competency development of students i.e., students whether male or female studying in different departments and with rural, urban and semi-urban background have differences in the soft skill training effectiveness and their overall competency development.

d. Multiple Regression

In order to find out the significant effect of soft skill training on competency development of students, multiple regression analysis is applied.

H₀₂: There is no significant impact of soft skill training on overall competency development of students.

H₁₂: There is a significant impact of soft skill training on overall competency development of students.

Table 10.4.a

Predictor Variables of Multiple Regression Analysis

Multiple R Value	R Square Value	Adjusted R²Value	F Value	Standard Error	P value
0.852	0.726	0.721	1127.363	5.010	<0.001**

[Source: Primary data]

Note: **Denotes significant at 1% level

The above table revealed that the effectiveness of soft skill training can be predicted at $R^2 = 0.726$. In this model, the value of R^2 denotes that 72.6% of the observed variability in overall competency development can be significantly explained by effectiveness of soft skill training. The remaining 27.4% is not explained which means that the rest 27.4% of the variation of overall competency development is related to other variables which are not depicted in this model.

The alternative hypothesis is accepted at 1% level of significance given that the p value is less than 0.01. Hence, the linear combination of effectiveness of soft skill training is significantly related to overall competency development of students ($F = 1127.363$ and $P = <0.001^{**}$).

Table 10.4.b

Coefficients between Effectiveness of Soft Skill Training and Overall Competency Development

Variables	USC	SE	SC	t value	P value
(Constant)	2.522	0.356	-	7.080	<0.001**
Emotional Intelligence	0.166	0.045	0.227	3.659	<0.001**
Time Management Skills	0.091	0.024	0.160	3.848	<0.001**
Inter-personal Skills	0.315	0.046	0.454	6.838	0.005**
Leadership Qualities	0.179	0.060	0.114	2.984	0.003**
Communication Skills	0.547	0.061	0.576	8.960	<0.001**
Problem Solving Skills	0.302	0.026	0.714	6.503	<0.001**
Decision Making Skills	0.002	0.036	0.002	0.058	0.007**
Stress Management Skills	0.078	0.051	0.059	1.539	0.005**

[Source: Primary data]

Note: ** Denotes significant at 1% level.

Dependent Variable (Y) = Overall Competency Development

Independent/Predictor Variable = Emotional Intelligence(X_1) + Time Management Skills (X_2) + Inter-personal Skills (X_3) + Leadership Qualities(X_4) + Communication Skills (X_5) + Problem Solving Skills (X_6) + Decision Making Skills (X_7) + Stress Management Skills (X_8)

The Ordinary Least Squares (OLS) equation for predicting overall competency development:

$$\text{Overall Competency Development}(Y) = 0.166X_1 + 0.091X_2 + 0.315X_3 + 0.179X_4 + 0.547X_5 + 0.302X_6 + 0.002X_7 + 0.078X_8 + e$$

The unstandardized coefficient value of emotional intelligence (0.166), time management skills (0.091), inter-personal skills (0.315), leadership qualities (0.179), communication skills (0.547), problem solving skills (0.302), decision making skills (0.002) and stress management skills (0.078) indicates the direct correlation with overall competency development of students i.e., for each additional unit of all the independent variables there is a 0.166 unit (emotional intelligence), 0.091 unit (time management skills), 0.315 unit (inter-personal skills), 0.179 unit (leadership qualities), 0.547 unit (communication skills), 0.302 unit (problem solving skills), 0.002 unit (decision making skills) and 0.078 unit (stress management skills) increase in their overall competency development of students and is significant at 1% level.

e. Friedman Test

In order to study the preference of the students regarding soft skill training needed to manage their competency level in organizations, Friedman test is applied. Based on mean rank, the most preferable natural cosmetic product brand is identified.

H_{03} : There is no significant difference in the mean rank of students' preferences among soft skill training needed to manage their competency level in organizations.

H_{13} : There is a significant difference in the mean rank of students' preferences among soft skill training needed to manage their competency level in organizations.

Table 10.5
Students' Preferences towards Soft Skill Training to manage their Competency Level in Organizations (Friedman test)

Soft Skill Training	Mean Rank	Chi-square Value	P Value
Emotional Intelligence	3.17	658.975	<0.001**
Time Management Skills	4.96		
Inter-personal Skills	2.41		
Leadership Qualities	7.45		
Communication Skills	1.68		
Problem Solving Skills	8.83		
Decision Making Skills	6.47		
Stress Management Skills	5.46		

[Source: Primary data]

Note: ** Denotes significant at 1% level

It is found from the above table, the null hypothesis is rejected at 1 percent level of significance (p value = 0.001). Hence it is concluded that there is a significant difference in the mean rank of students' preferences among soft skill training needed to manage their competency level in organizations. Based on mean rank, the most significant soft skill training preferred by students to manage their competency level in organizations is communication skills (1.68), followed by inter-personal skills (2.41), emotional intelligence (3.17), time management skills (4.96), stress management skills (5.46), decision making skills (6.47), leadership qualities (7.45) and problem solving skills (8.83).

XI. Findings

It is understandable from the descriptive statistics that the mean value for all the factors of effectiveness of soft skill training are below 3.50, which means the effectiveness of soft skill training provided by engineering colleges are at average level. Based on MANOVA, it is clearly learnt that there is a significant difference between demographic factors with soft skill training effectiveness and overall competency development of students. The multiple regression analysis has proven that 72.6% of the observed variability in overall competency development can be significantly explained by effectiveness of soft skill training. In addition, based on the unstandardized coefficient, it is understood that there is a direct relationship between the soft skill training and overall competency development of students. It is found from the Friedman test that communication and interpersonal skills are considered as a

significant skill which is necessary for the engineering students to manage their competency level while entering into their career.

XII. Suggestions

To learners of all levels, soft skill learning is advantageous. When entering their career after completion of their discipline, it occupies a crucial role in mapping the skills and building trust among students. The study found that the effectiveness of soft skill training offered by engineering colleges is at average level. It is also observed that the overall competency development is found to be at minimum level. Therefore, management is advised to concentrate on the development of different techniques and employ unique, skilled and effective faculty to train students to improve their level of skills. From the MANOVA test, it is clearly learnt that there is a significant difference between demographic factors with soft skill training effectiveness and overall competency development of students. For the management, therefore, it is better to directly coach the students rather than to simply train taking into account their demographic factors. Based on the Friedman test, it is understood that communication and interpersonal skills are the vital skill needed for the engineering students to manage their competency level while entering into career after the completion of their course curriculum.

XIII. Limitations of the Study

- 1) The study is limited to impact of soft skill training on competency development of students studying at private engineering colleges at Chennai city.
- 2) This study is limited to 200 students.
- 3) The study does not taken in to consideration of other soft skill training namely self-understanding skills, presentation skills, creativity skills, etc

XIV. Conclusion

In Chennai, there are around 70 engineering colleges competing with each other to admit students in their colleges. In this hi-tech world, it is easy for them to differentiate and make unique themselves in adopting various teaching methodologies. The only aspect they challenge their peers is that after completing their course curriculum, they prepare students for appropriate career opportunities in the organizations and ensure 100% job placement. In order to be placed in multinational companies, soft skill learning is important for engineering students to improve their skill level. The study found that there is a significant impact of soft skill training on overall competency development of engineering students. Thus, the study concluded that in order to train the engineers for future jobs, the colleges should join hands with the organizations to offer effective work-related training programs to improve their students ' knowledge, skills and skills.

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