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A Study on Competency Mapping Towards Faculty in Private Engineering Colleges in Dindigul Town, Tamil Nadu

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Abstract: The advancement of a nation is closely linked to the skills and competencies of its younger generation. This, in turn, is influenced by the quality of education provided, which is heavily dependent on the faculty members involved. This research focuses on identifying essential competencies for faculty members in private engineering colleges located in Dindigul town, Tamil Nadu. The study includes detailed analysis and offers recommendations for improvement.

Keywords: Communication abilities, Competency, Learning skills, Strategy, Student needs assessment, Subject expertise.

I. Introduction

Competency mapping, a crucial concept in modern industries, involves identifying the skills and attributes necessary for success. It is a strategic HR tool used to monitor and enhance employee performance. In today's globalized economy, effective management practices such as competency mapping are essential for improving employee productivity and fostering career development.

II. Indian Education Industry

India's education sector is experiencing significant growth, with increasing private investment and government initiatives aimed at enhancing educational quality. The sector is vast, encompassing numerous universities, colleges, and a large student population. The constant demand for education underscores the sector's resilience and expansion potential.

III. Engineering Colleges in Dindigul Town

Dindigul town is home to approximately five private engineering colleges, each employing around 80 faculty members. The diverse courses and cultural backgrounds of these colleges result in varying levels of faculty competencies and skills.

IV. Statement of the Problem

The effectiveness of education and the success of students are heavily influenced by faculty competencies. Key issues identified include:

- Essential competencies required for faculty.
- Current competency levels among faculty.
- Expected standards of competency.
- Gaps in competency levels.
- Measures to address these gaps.

V. Objective

The primary aim of this research is to examine competency mapping for faculty in private engineering colleges in Dindigul Town, Tamil Nadu. Specific objectives include:

- Identifying critical competencies for faculty.
- Assessing existing competency levels.
- Determining competency gaps.
- Recommending measures to address deficiencies.

VI. Literature Review

David McClelland [1] highlighted the importance of competency over mere intelligence in performance evaluations. Kofi Annan [2] described competencies as a mix of skills, attributes, and behaviors necessary for job performance. Velayudhan [3] conducted a study on employee competencies across various dimensions, revealing significant competency gaps. The Rockefeller Foundation [4] emphasized the importance of understanding the target audience and effective communication in development contexts.

VII. Research Methodology

A descriptive research design was used, with primary data collected through a structured questionnaire from 100 faculty

members using a simple random sampling method. Secondary data were sourced from articles, books, and online resources. Data analysis was performed using Reliability Analysis, Two-Way ANOVA, Mann-Whitney U test, and Chi-Square Analysis, with SPSS 20.0 software.

VIII. Reliability Analysis

H0: The instrument is not reliable.

H1: The instrument is reliable.

Cronbach's Alpha	No. of Items
.920	24

The value of Cronbach's Alpha is .920 and the no. of items (questions) is 24. Since the value of Alpha is higher than the accepted value of .70 (Nunnally, 1988), we reject the null hypothesis and accept the alternative hypothesis. Hence, we say that the instrument is reliable and can be used with other statistical procedures for further investigation.

IX. Chi-Square Test

A. Gender and Learning Skills

H0: There is no significant difference between Gender and Learning Skills.

H1: There is significant difference between Gender and Learning Skills.

Particulars		Learning Skills				Total
		Disagree	Mutual	Agree	Strongly Agree	
Gender	Male	1	11	33	37	82
	Female	4	2	4	8	18
Total		5	13	37	45	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.379	3	.002
Likelihood Ratio	10.644	3	.014

The Pearson Chi-square value of gender and learning skills is 14.379 and the corresponding significant value is .002. As the calculated significant value is less than .050, we accept the alternative hypothesis and conclude that there is a significant difference between Gender and learning Skills.

B. Age Group and Adaptability

H0: There is no significant difference between Age Group and Subject knowledge.

H1: There is a significant difference between Age Group and Subject knowledge.

		Subject Knowledge				Total
		Disagree	Mutual	Agree	Strongly Agree	
Age Group	1	0	0	1	1	2
	2	1	5	1	3	10
	3	0	16	36	21	73
	4	0	2	5	3	10
	5	0	0	2	2	4
	6	0	0	0	1	1
Total		1	23	45	31	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.777	15	.181
Likelihood Ratio	17.217	15	.306

The Pearson Chi-square value of age group and subject knowledge is 19.777 and the corresponding significant value is .181. As the calculated significant value is more than .05, we accept the null hypothesis and conclude that there is no significant difference between Age Group and Subject knowledge.

X. Mann-Whitney U Test

H0: There is an association between Gender and Communication skills.

H1: There is an association between Gender and Communication skills.

	Gender	No. of Respondents	Mean Rank	Sum of Ranks
Communication skills	Male	82	54.12	4438.00
	Female	18	34.00	612.00
	Total	100		

Test Statistics	
	Communication Skills
Mann-Whitney U	441.000
Wilcoxon W	612.000
Z	-2.862
Asymp. Sig. (2-tailed)	.004
a. Grouping Variable: Gender	

The Mann-Whitney U test value of gender and communication skills is 441.000 and the corresponding significant value is .004. As the calculated significant value is less than .01, we accept the alternative hypothesis and conclude that there is a significant association between Gender and Communication skills.

XI. Two Way Anova Analysis

H0: Gender & Experience does not influence identification of student's needs.

H1: Gender & Experience influences identification of student's needs.

Tests of Between-Subjects Effects					
Dependent Variable: Identification of Student's Needs					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.041	9	1.005	1.551	.142
Intercept	577.765	1	577.765	892.385	.000
Gender	.019	1	.019	.029	.865
Experience	4.328	5	.866	1.337	.256
Gender * Experience	5.905	3	1.968	3.040	.033
Total	1565.000	100			

The Two way ANOVA value of gender, experience and identification of student's need is 3.040 and the corresponding significant value is .033. As the calculated significant value is less than .05, we accept the alternative hypothesis and conclude that Gender and Experience influences identification of student's needs.

XII. Suggestions and Recommendations

Recommendations include:

- Implementing regular training and development programs for faculty.
- Designing training programs based on thorough needs analysis.
- Establishing a robust mentoring system.
- Focusing on improving competencies such as learning skills, subject knowledge, communication abilities, and student needs assessment.

XIII. Conclusion

This study highlights the importance of faculty competencies in educational institutions. By adopting the recommendations provided, institutions can enhance their overall effectiveness and contribute to the development of a skilled and competent workforce.

References

[1] Sudipta, *Competency Based HR*. Express Computer, Jan. 10, 2005.

[2] R. Sankheti, *Competency Mapping*. Business Line. The Hindu Group, Dec. 15, 2008.

[3] S. P. Kumar, *Competency Mapping*. Jun. 29, 2009. [Online]. Available: http://www.articlesbase.com

[4] P. Farhan, *Competency Mapping*. Mar. 11, 2009. [Online]. Available: http://www.mbaarticles.com

[5] *Mapping Competencies*. ME Magazine, Feb. 2010.

[6] International Conference on Information Communication and Management, *Proceedings of the 2011 International Conference on Information Communication and Management (IPCSIT),* vol. 16, IACSIT Press, 2011.

[7] A. Marguerite, and G. Secundo, "Competency management in support of organizational change," *International Journal of Manpower,* vol. 28, no. 3/4, pp. 260-275, 2009.

[8] A. May, "Developing management competencies for fast-changing organizations," *Career Development International,* vol. 4, no. 6, pp. 336-339, 1999.

[9] T. V. Rao, *The Art and Science of Competency Mapping*. (n.d.).

[10] K. Aswathappa, *Organisational Behaviour,* 7th ed. Himalaya Publishing House, 2007, pp. 249-250.

[11] C. A. Enz, and J. Siguaw, "Best practices in human resources," *Cornell Hotel and Restaurant Administration Quarterly,* vol. 41, no. 1, pp. 48-61, 2000.

[12] Rockefeller Foundation, *Conference on Competencies: Communication for Development and Social Change*, Bellagio Study and Conference Center, Bellagio, Italy, Jan. 28 – Feb. 01, 2002.

[13] Aspiring Minds, *Featured Profile: Hotel Management Trainee*. (n.d.). [Online]. Available: http://www.aspiringminds.in/researchcell/featured_profiles/Featured_profile_hotel_management_trainee.html

[14] Invest in India, *Education Industry*. (n.d.). [Online]. Available: http://www.investinindia.com/industry/education/education-industry

[15] S. Ahuja, "Competency mapping at managerial level in special reference to hotel clerks Amer, Jaipur," *A Journal of Multidisciplinary Research,* vol. 1, no. 1, Apr. 2012.