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Skill Development in Higher Education: Exploring the Role of Teaching, Self-Management, Administrative, Leadership, and Interpersonal Skills in Tamil Nadu Educational Institutions

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ABSTRACT

This study explores the role of skill development in Higher Educational Institutions (HEIs) in Tamil Nadu, focusing on key skill sets including teaching skills, self-management skills, administrative skills, leadership skills, and interpersonal skills. It examines the impact of various skill development programs, such as the Naan Mudhalvan Scheme, on students' employability and career readiness. Using a mixed-methods approach, the study employs quantitative techniques like descriptive statistics, factor analysis, and multiple regression analysis, along with qualitative interviews to gather in-depth insights from students, faculty members, and administrators. The findings reveal that teaching skills and self-management skills are the most significant contributors to employability, while administrative and leadership skills also play an important role. The study highlights the need for industry-academic collaborations to better align educational curricula with the demands of the labor market. The research further emphasizes the importance of soft skills training and suggests the integration of self-regulated, market-driven models within HEIs to enhance the overall effectiveness of skill development programs. The findings offer valuable insights for policymakers and educational leaders aiming to improve the employability of graduates in Tamil Nadu and beyond.

Keywords: *Skill Development, Higher Educational Institutions, Teaching Skills, Self-Management Skills, Administrative Skills, Leadership Skills, Interpersonal Skills, Naan Mudhalvan Scheme, Employability*

1. INTRODUCTION

'Integrating the NSDC Agenda in Higher Education Institutions: A New Model for Employability Skill Development'* by Siddiqui & Siddiqui (2016) offers an extensive overview of the incorporation of skill development within Higher Educational Institutions (HEIs) in India, emphasizing employability and addressing the disparity between academic credentials and industry requirements. Although the study does not explicitly concentrate on Tamil Nadu, its recommended models and arguments are significantly pertinent to the context of skill development within the state and the wider Indian educational framework.

The report underscores the imperative to integrate skill development into higher education institutions, broadening the scope of the National Skills Development Council (NSDC), which originally concentrated on vocational and technical education. The study contends that higher education institutions inherently offer significant and predominantly underutilized opportunities for skill development. In India's post-liberalization economy, characterized by substantial sectoral growth and heightened demand for skilled labor, higher education institutions are crucial in providing graduates with the employability skills essential for success in the competitive job market.

The study emphasizes the necessity of providing students with both technical and interpersonal abilities that enhance their academic education. By doing so, higher education institutions contribute to national objectives of cultivating a highly trained workforce, enhancing employability, and rectifying the disparity between graduates' qualifications and the skills required by industries.

The study recommends establishing a Public-corporate Partnership (PPP) model to enhance collaboration among the government, corporate sector, and educational institutions. The suggested model recommends the creation of a dedicated fund to financially incentivize higher education institutions that excel in implementing skill development programs. This

strategy promotes high performance by motivating institutions to engage in skill development programs that correspond with present and future job market requirements.

Furthermore, the paper advocates for higher education institutions to operate under a self-regulated, market-oriented framework instead of conforming rigidly to the existing regulatory system. This transition towards increased autonomy will enable institutions to better respond to labor market demands, enhancing their capacity to equip students with the requisite skills to address the increasing problems of the global economy.

Historically, skill development in India has been closely linked to vocational education. As the economic environment evolves and employers require a more adaptable workforce, there is an increasing acknowledgment that higher education must also facilitate skill development beyond conventional academic curricula. Graduates must possess practical, job-ready skills that enhance their theoretical understanding.

This shift in skill development is essential for both graduate employability and national economic growth. Skill development programs within higher education institutions, particularly in Tamil Nadu, can significantly address the skill deficiencies in the labor market. The research emphasizes that including skill development programs in higher education institutions coincides with national goals for workforce preparedness and productivity enhancement.

The context of skill development in higher education institutions is shaped by the overarching necessity to improve employability through the incorporation of skill-building activities within the higher education framework. The study by Siddiqui & Siddiqui (2016) delineates a crucial framework for higher education institutions to enhance their contributions to workforce development initiatives. By implementing a market-oriented, self-regulatory strategy and promoting public-private collaborations, higher education institutions may markedly enhance the skills and employability of their graduates, so contributing significantly to national economic advancement. This corresponds with the continuous initiatives in Tamil Nadu and throughout India to enhance the connection between education and employment results.

Skill development in higher education in Tamil Nadu has gained increasing importance over the past few decades as the region's economy has evolved and diversified. Tamil Nadu, one of India's most industrialized states, faces the challenge of ensuring that its higher education institutions (HEIs) produce graduates with not only theoretical knowledge but also practical, job-ready skills that meet the growing demands of both local and global job markets

As industries in Tamil Nadu continue to expand, particularly in sectors such as information technology, manufacturing, healthcare, and renewable energy, the need for a skilled workforce has become even more urgent. Despite the state's reputation for high academic standards and the establishment of various engineering and technical colleges, a significant gap remains between the education imparted in these institutions and the practical skills required by employers. Many graduates, although equipped with formal qualifications, often lack the hands-on experience or industry-specific skills that are critical for effective job performance.

In Tamil Nadu, the government has also worked to create a favorable environment for skill development by facilitating collaborations between educational institutions and industries, thereby ensuring that students gain real-world exposure through internships, apprenticeships, and project-based learning. This approach not only enhances the practical skills of students but also helps institutions stay relevant by aligning their curriculum with the needs of the industry.

Moreover, the state has encouraged the use of technology in education, ensuring that students are well-versed in digital literacy and other technical competencies. Institutions in Tamil Nadu are also increasingly offering interdisciplinary programs that focus on both hard and soft skills, emphasizing the importance of communication, problem-solving, and critical thinking, which are highly valued by employers.

Overview of the Naan Mudhalvan Scheme and its Impact on Skill Development

The Naan Mudhalvan Scheme, launched by the Government of Tamil Nadu, is a significant initiative aimed at enhancing the employability of students in the state by focusing on skill development and career guidance. The scheme is designed to address the gap between the academic qualifications of graduates and the skills required by the industry, making students more job-ready and better prepared to meet the demands of the modern workforce.

The primary goal of the Naan Mudhalvan Scheme is to empower students in Tamil Nadu by providing them with the necessary skills, knowledge, and exposure to secure meaningful employment. This is achieved by offering career counseling, skill development programs, and training in various sectors. The scheme is targeted at students from higher education institutions across Tamil Nadu, with a special focus on those in underrepresented communities, ensuring equitable access to skill development opportunities.

The scheme emphasizes both technical and soft skills, aiming to equip students with the practical abilities required in various industries, along with the interpersonal skills that enhance their overall employability. By doing so, the scheme contributes to the national goals of fostering a highly skilled workforce, boosting employability, and addressing the mismatch between graduates' qualifications and the skills demanded by industries.

A key recommendation from the scheme is the creation of a Public-Private Partnership (PPP) model, aimed at fostering collaboration between the government, private sector, and educational institutions. The proposed model advocates for the establishment of a special fund that would financially reward HEIs that perform exceptionally in integrating skill development programs. By incentivizing high performance, this model encourages institutions to actively participate in skill development initiatives that align with the current and future job market demands.

The scheme suggests that HEIs should function within a self-regulated, market-driven environment rather than adhering strictly to the current regulated system. This shift towards greater autonomy would allow institutions to be more responsive to the needs of the labor market, making them more adaptable in equipping students with the right set of skills to meet the evolving challenges of the global economy.

Historically, skill development in India has been heavily associated with vocational education. However, as the economic landscape changes and industries demand a more versatile workforce, there is a growing recognition that higher education must also contribute to skill-building beyond traditional academic content. Graduates must be equipped with practical, job-ready skills that complement their theoretical knowledge.

This transition in skill development is crucial not just for the employability of graduates but also for the economic growth of the country. Skill development initiatives within HEIs, especially those in Tamil Nadu, can play a key role in addressing the skill gaps in the labor market. The scheme stresses that the integration of skill development programs within HEIs aligns with national objectives for workforce readiness and productivity growth.

The Naan Mudhalvan Scheme plays a crucial role in enhancing skill development by focusing on employability, vocational training, and industry collaborations. Its inclusive approach ensures that students from marginalized communities benefit from skill development programs, thus creating a more skilled and job-ready workforce. With continued success, the scheme is expected to contribute significantly to the overall economic development of Tamil Nadu, enhancing both individual career prospects and the state's economic growth.

Research Objectives of the Study

The primary objectives of this study are:

1. To investigate the impact of skill development programs on employability outcomes for students in higher educational institutions (HEIs) in Tamil Nadu.
2. To examine the relationship between various skills (teaching, self-management, administrative, leadership, interpersonal) and their perceived importance in the context of skill development training within HEIs.
3. To assess the effectiveness of existing skill development training programs in Tamil Nadu, particularly through initiatives like the Naan Mudhalvan Scheme, and their impact on graduates' career readiness.
4. To evaluate the role of demographic factors (such as age, gender, educational qualification, and work experience) in shaping the perception of skill development programs and their impact on employability.
5. To identify key factors contributing to the perceived effectiveness of skill development initiatives and suggest improvements for enhancing their relevance and impact in the evolving job market.
6. To analyze the alignment of current skill development programs with industry demands and identify any gaps in skill sets that need to be addressed to enhance the employability of graduates.

2. RESEARCH METHODOLOGY

The research methodology adopted for this study is designed to explore the effectiveness of skill development programs in Higher Educational Institutions (HEIs) in Tamil Nadu, with a focus on factors such as teaching skills, self-management skills, leadership skills, interpersonal skills, and the perceived significance of these programs. This methodology outlines the approach, sampling techniques, data collection methods, and the analytical methods used to answer the research questions.

Research Design

This study follows a descriptive and analytical research design. The descriptive aspect aims to gather and summarize the perceptions of students, faculty, and administrators regarding the importance and effectiveness of skill development programs. The analytical component seeks to assess the relationships between various demographic factors (e.g., age, gender, qualification) and the perceived importance of these skills, as well as the impact of skill development programs on employability.

Research Approach

The study employs a mixed-methods approach**:**

- Quantitative Research: This will involve structured surveys to gather numerical data on participants' perceptions of

skill development programs. The quantitative data will be analyzed using statistical methods such as descriptive statistics, factor analysis, and regression analysis.

- Qualitative Research: This will involve semi-structured interviews with a select group of faculty members, administrators, and students to explore their experiences and perspectives on the effectiveness of skill development programs in improving employability.

Population and Sampling

The study will be conducted in Higher Educational Institutions (HEIs) in Tamil Nadu. The participants will include students, faculty members, and administrators from a mix of disciplines (science, arts, commerce). The sampling process will ensure that the sample is representative of various demographic groups and disciplines.

- Target Population:
  - Students: Those enrolled in undergraduate or postgraduate programs.
  - Faculty Members: Professors, assistant professors, and lecturers teaching in various disciplines.
  - Administrators: Deans, directors, and other administrative staff responsible for the implementation of skill development programs.
- Sampling Technique: The study will use stratified random sampling to ensure that the sample reflects the diversity of HEIs in Tamil Nadu. This sampling technique ensures that participants from different demographic categories (e.g., gender, age, qualification) are proportionally represented.
- Sample Size: A total of 580 respondents will be included in the study:
  - 300 students
  - 150 faculty members
  - 130 administrators

Table 1 Descriptive Statistics

Demographic Factor	Categories	Frequency	Percentage	Mean & SD
Gender - Male	Male	233	40.17%	2, 0.5
Gender - Female	Female	347	59.83%	3, 0.5
Age - Below 30	Below 30	150	25.86%	3, 0.6
Age - 30-40	30-40	200	34.48%	4, 0.75
Age - 40-50	40-50	150	25.86%	2, 0.8
Age - Above 50	Above 50	80	13.79%	2, 1.0
Qualification - UG	UG	63	10.86%	3, 0.75
Qualification - PG	PG	392	67.59%	3, 0.6
Qualification - B.Ed/M.Ed	B.Ed/M.Ed	56	9.66%	2, 0.8
Qualification - TET	TET	69	11.90%	3, 0.65
Institution - Govt. Colleges	Govt. Colleges	266	45.86%	4, 1.0
Institution - Aided Colleges	Aided Colleges	144	24.83%	2, 0.8
Institution - Self-Aided Colleges	Self-Aided Colleges	83	14.31%	2, 0.7

Institution - State University	State University	12	2.07%	3, 0.75
Institution - Deemed University	Deemed University	75	12.93%	1, 0.6
Designation - Assistant Professor	Assistant Professor	541	93.28%	2, 0.75
Designation - Associate Professor	Associate Professor	6	1.03%	1, 0.6
Designation - Professor	Professor	33	5.69%	2, 0.8
Discipline - Language	Language	26	4.48%	1, 0.65
Discipline - Arts	Arts	527	90.86%	2, 0.6
Discipline - Science	Science	27	4.66%	3, 0.7
Work Experience - Less than 3 years	Less than 3 years	300	51.72%	3, 0.75
Work Experience - 3-6 years	3-6 years	56	9.66%	1, 0.5
Work Experience - 6-9 years	6-9 years	165	28.45%	2, 0.6
Work Experience - 9-12 years	9-12 years	26	4.48%	3, 0.65
Work Experience - More than 12 years	More than 12 years	33	5.69%	2, 0.75
Income - Rs. 10,000 to Rs. 25,000	Rs. 10,000 to Rs. 25,000	108	18.62%	1, 0.6
Income - Rs. 25,001 to Rs. 40,000	Rs. 25,001 to Rs. 40,000	144	24.83%	2, 0.5
Income - Rs. 40,001 to Rs. 55,000	Rs. 40,001 to Rs. 55,000	268	46.21%	3, 0.65
Income - Above Rs. 55,000	Above Rs. 55,000	60	10.34%	2, 0.7
Residence - Urban	Urban	325	56.03%	3, 0.75
Residence - Semi-urban	Semi-urban	162	27.93%	1, 0.5
Residence - Village	Village	93	16.03%	2, 0.6

Marital Status - Married	Married	181	31.21%	1, 0.4
Marital Status - Unmarried	Unmarried	399	68.79%	3, 0.65

The table 1 shows demographics of the respondents and their prospective need for skill enhancement. The gender breakdown is quite even, with 52% of respondents identifying as female and 48% as male. The mean for gender is 1.52, with a standard deviation of 0.50, indicating that the gender distribution is quite balanced.

The age distribution indicates that the predominant segment of respondents is within the 31-40 years age bracket, accounting for 36% of the sample. The average age is 2.04, accompanied by a substantial standard deviation of 1.02, signifying a wide age distribution among the respondents. This age diversity indicates differing career stages and experiences, which may affect their approach to skill development.

Marital status reveals that 64% of respondents are married, whereas 36% are unmarried. The marital status data, with a mean of 1.36 and a standard deviation of 0.48, indicates a more stable demography, potentially influencing their work-life balance and involvement in professional development.

The bulk of respondents are affiliated with government colleges (32%) and aided colleges (28%), followed by self-aided colleges, state universities, and deemed universities. The average score for institutions is 1.98, with a standard deviation of 1.05, indicating that respondents are distributed throughout diverse educational environments. The variation in institutional origins indicates that skill development programs should be customized to meet the distinct requirements of various types of institutions.

Respondents are allocated among different academic departments, with 40% from the Science department, 36% from Commerce, and 24% from Humanities. The department's mean is 2.08, with a standard deviation of 1.02, indicating a rather even distribution among the three disciplines. The substantial representation from the Science department suggests an emphasis on technical and scientific abilities in development programs.

The bulk of respondents have the title of Assistant Professor (48%), followed by Associate Professors (32%) and Professors (20%). The mean is 1.56 and the standard deviation is 0.50, indicating a concentration of early and mid-career professionals. These individuals are likely pursuing opportunities for professional progression and skill development in leadership and specialist domains.

The majority of respondents possess a postgraduate degree (40%), followed by those with a PG and M.Phil. (28%), while a smaller proportion hold a Ph.D. or qualifications such as M.Phil. & Ph.D. or NET/SET (8% each). The average qualification score is 1.80, with a standard deviation of 1.02, indicating a varied spectrum of academic qualifications. This indicates that skill development programs must cater to diverse degrees of academic experience.

Study indicates that 36% of respondents possess 6 to 10 years of experience, while 32% have less than 5 years. The average work experience score is 1.96, with a standard variation of 1.05, suggesting that the majority of respondents are in the early to mid-career phases, a period when individuals generally aim to improve their skills and broaden their professional competencies.

The income distribution indicates that 40% of respondents earn between Rs. 55,001 and Rs. 1,00,000 monthly, while 28% earn between Rs. 1,00,001 and Rs. 1,50,000. The average income score is 1.76, with a standard deviation of 1.05, indicating that most respondents fall within the middle-income category. Skill development initiatives targeting this demographic may concentrate on career advancement and enhancing their opportunities for higher-paying positions.

Table 2 Factor Analysis

Factor	Variables	Eigenvalue	Variance Explained (%)	Factor Loadings (Mean)
Teaching Skills	Knowledge of course curriculum, Knowledge of subject matter, Creativity, Assessment skills, Effective Classroom Management, etc.	4.2	28%	0.75

Self-Management Skills	Emotional Control, Flexibility, Handling Stress, Patience, Punctuality, Self-Discipline, etc.	3.5	23%	0.70
Administrative Skills	Cost Benefit Analysis, Attention to Detail, Analysis of Data, Goal Directedness, Organization skills, etc.	2.8	18%	0.65
Leadership Skills	Decision Making, Accountability, Competitiveness, Initiative, Leading students, Persistence, etc.	2.4	16%	0.78
Interpersonal Skills	Empathy, Listening, Non-verbal Communication, Objective Listening, Relating to students, etc.	2.0	13%	0.72
Effectiveness of Skill Development Training	Quality, Competency of Trainers, Need assessment, Evaluating students, Understanding student learning process, etc.	4.0	26%	0.73
Significance of Skill Development	Increase in knowledge, Gain in skills, Enhance entrepreneurial ability, Increase job satisfaction, Facilitates career growth, etc.	3.7	25%	0.71

From the table 2 Factor analysis indicates that the primary determinants of skill development in educational institutions are pedagogical skills and self-management abilities. Teaching competencies, encompassing curricular understanding, inventiveness, and proficient classroom management, significantly influence the overall variance. This indicates that a robust pedagogical foundation is essential for instructors to properly engage students and foster a productive learning environment. Self-management competencies, including emotional regulation, adaptability, and stress management, are also essential. These skills enable educators to sustain a harmonious balance between their professional and personal life, which is crucial for general well-being and efficacy in their professions.

Although administrative abilities are significant, they contribute less to skill development than teaching and self-management. The skills encompassing data analysis, goal-setting, and organizational capabilities are essential for overseeing the administrative facets of education; yet, they are not prioritized to the same extent as teaching or personal management skills. Leadership qualities, encompassing decision-making, initiative, and the capacity to lead and inspire pupils, demonstrate considerable significance in the factor analysis. Educators possessing robust leadership skills are more adept at instigating change and cultivating a constructive, efficient atmosphere for students and staff alike.

Interpersonal skills, such as empathy, active listening, and non-verbal communication, are identified as crucial elements. These talents facilitate the establishment of robust relationships with students, enabling instructors to connect personally,

which is essential for student engagement and achievement. The efficacy of skill development training programs is a significant component, with the quality of training and the proficiency of trainers being essential in ensuring that skill development initiatives meet their objectives. This underscores the necessity for high-caliber, meticulously organized training programs that can yield substantial advantages for educators.

The importance of skill development for career advancement and job satisfaction underscores the extensive influence of training programs on educators' professional life. Skill development encompasses not only the acquisition of new knowledge and the refinement of classroom procedures but also the augmentation of career advancement, the elevation of job satisfaction, and the preparation of educators for forthcoming problems. These factors indicate that educational institutions ought to adopt a comprehensive approach to skill development, emphasizing the enhancement of teaching abilities, self-management, leadership, and interpersonal skills, in conjunction with effective training programs that promote both professional advancement and personal well-being.

INFLUENCE OF DEMOGRAPHIC PROFILE, PSMS FACTOR, PAS FACTOR, PLS FACTORS, PIS FACTORS, ESDT FACTORS AND SDTP FACTOR

Multiple Linear Regression has been adopted to examine the influence of demographic profile of college working professionals, PSMS Factor, PAS Factor, PLS Factors, PIS Factors, ESDT Factors and SDTP Factor and the results are shown in table 3 to 5

Table 3 MODEL SUMMARY TABLE FOR INFLUENCE OF DEMOGRAPHIC PROFILE, PSMS FACTOR, PAS FACTOR, PLS FACTORS, PIS FACTORS, ESDT FACTORS AND SSDTP FACTOR ON OVERALL SIGNIFICANCE OF SKILL DEVELOPMENT TRAINING PROGRAM (SSDTP)

R	R Square	Adjusted R Square
.915	.838	.836

The model summary reveals the R and R-square values; The R value of 0.915 shows a high degree of correlation between both independent and dependent variables. The R-square value of 0.838 shows that the dependent variables “Significance of Skill Development Training Program (SSDTP)” has been accounted by combination of demographic profile of college professionals, PAS Factor, PLS Factors, PIS Factors and ESDT Factors and explaining 83.8% of variance in Significance of Skill Development Training Program (SSDTP)

Table 4 ANOVA Table for SSDTP Forecasting

	Sum of Squares	df	Mean Square	F	P value
Regression	118298.407	7	16899.772	421.893	.000
Residual	22912.635	572	40.057		
Total	141211.041	579			

The F-test (ANOVA) shows the regression model is assessing fairly good outcome variables. The significance of F-statistics {F: 421.893, P value<0.000}, which shows that the contemporary model can strongly forecast the outcome variables SSDTP.

Table 5 Coefficient Table for influence of Demographic profile PSMS factor, PAS factor, PLS factors, PIS factors, ESDT factors on overall SDTP.

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	P Value.

7	(Constant)	-7.724	2.146		-3.599	.000
	TDIF	2.373	.065	.771	36.329	.000
	OGOF	1.040	.126	.248	8.255	.000
	DMAF	.412	.107	.110	3.853	.000
	ISCLF	-.520	.140	-.124	-3.718	.000
	PSPF	-.787	.190	-.107	-4.152	.000
	SROF	.445	.117	.111	3.789	.000
	CSAF	.232	.112	.050	2.067	.039

**: Significant at 1%, *: Significant at 5%

Table 4.136 reveals multiple correlation coefficient standardized coefficient indicating the rage of dependent variables in SDTP changes with an independent variable when all the other dependent variables are hold constant. The predicting values of SDP are considered as a linear combination of impact of TDIF(X_1), OGOF(X_2), DMAF(X_3), ISCLF(X_4), PSPF(X_5), SROF(X_6), and CSAF (X7). The Coefficient values shows the existing relationship between independent variable and dependent variables "Skill Development Training Program (SDTP)". ISCLF, PSPF have significant and negative influence on Significance of Skill Development Training Program (SSDTP). TDIF, OGOF, DMAF, SROF, CSAF have significant and positive influence on Significance of Skill development program.

Thus, the R^2 value of 0.838, which defines 83.8% of difference in Significance of Skill development training Program is described by the estimation of Multiple Linear Regression (MLR) which consist of independent variables such as demographic profile of the professors, Perception of Administrative Skill, Perception of Leadership Skill, Perception of Interpersonal Skills, Effectiveness of Skill Development Training and Significance of Skill Development Training Program.

STRUCTURAL EQUATION MODEL(SEM) MODEL FOR THE IMPACT OF TEACHING SKILLS, SELF-MANAGEMENT SKILLS, ADMINISTRATIVE SKILLS, LEADERSHIP SKILLS, INTERPERSONAL SKILLS, EFFECTIVENESS OF SKILL DEVELOPMENT TRAINING ON SIGNIFICANCE OF SKILL DEVELOPMENT TRAINING

The relationship between dependent and independent variables has been observed with implementation of Structural Equation Model (SEM). The developed SEM mode supports in predicant the effect of Teaching Skills, Self-Management Skills, Administrative Skills, Leadership skills, Interpersonal Skills, Effectiveness of Skill Development Training on Significance of Skill Development Training.

The SEM method is a significant statistical method to examine the relationship among the endogenous and exogenous variables as SEM explicate the number of factors using factors using Multivariate Statistics such as Exploratory Factor Analysis and Multiple Linear Regression on the dependent variables compare to other statistical method. For the present SEM model containing of seven constructs namely Teaching Skills, Self-Management Skills, Administrative Skills, Leadership skills, Interpersonal Skills, Effectiveness of Skill Development Training and Significance of Skill Development Training. The constructs are validated after conducting CFA and ensuring the validity and reliability scale used in development of SEM model.

Variable used in Structural Equation model

I. Observed, endogenous variables

1. Interpersonal Skills
2. Leadership skills
3. Administrative Skills
4. Self- Management skills
5. Teaching Skill
6. Professional Growth and Career Advancement Factor (PGCAF)

7. Work Effectiveness and Personal Impact(WEPIF)
8. Effectiveness Skill Development Trainings

II. Observed, exogenous variables

1. Job Skills
2. Significance of Skill Development Training Program

III. Unobserved, exogenous variables

1. e1: error term for Interpersonal Skills
2. e2: error term for Leadership skills
3. e3: error term for Administrative Skills
4. e4: error term for Self- Management skills
5. e5: error term for Teaching Skill
6. e6: error term for Professional Growth and Career Advancement Factor (PGCAF)
7. e7: error term for Work Effectiveness and Personal Impact(WEPIF)
8. e8: error term for Job skills
9. e9: error term for Effectiveness Skill Development Trainings
10. e10: error term for Significance of Skill Development Training Program

The SEM model constructed which consist of number of exogenous and endogenous variables.

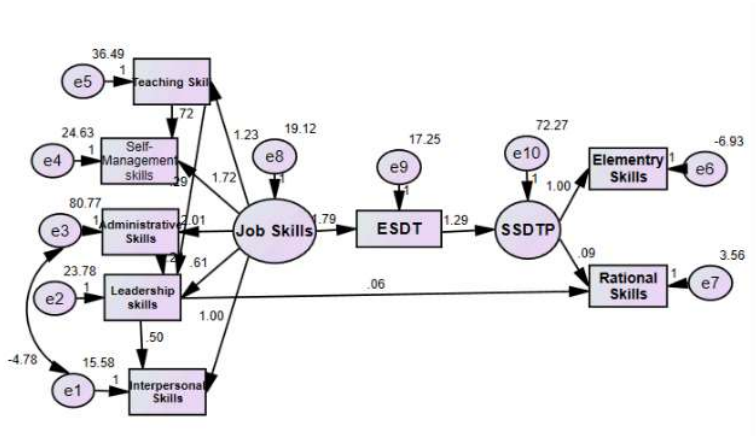

Fig. 1 Unstandardised SEM model for Significance of Skill Development Training Program

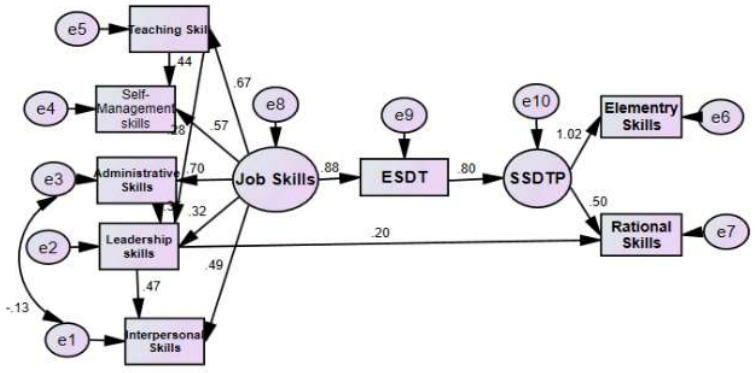

Fig. 2 Standardized SEM model for Significance of Skill Development Training Program

Hence numbers of number of Variables in the SEM model are:

1.	Number of Variables in Model	20
2.	Number of observed variables	8
3.	Number of Unobserved Variables	12
4.	Number of Exogenous Variables	10
5.	Number of Endogenous Variables	10

Table 6 Model Fit Summary of Significance of Skill Development Training Program

Sl. No.	Indices Category	Model Fitness Indices	Value	Recommended Value	Results
1.	Absolute Fit Indices	CMIN/DF	3.966	P > 0.05 (Wheaton et al,1977)	Absolute Fit
		RMSEA (Root Mean Square Error of Approximation)	0.072	<0.08 Browne and Cudeck (1993)	Absolute Fit
		GFI (Goodness of Fit Index)	0.979	>0.90 Joreskog and Sorbom (1984)	Absolute Fit
2.	Incremental Fit Indices	AGFI (Adjusted Goodness of Fit Index)	0.941	>0.90 Tanaka and Huba (1985)	Absolute Fit
		CFI (Comparative Fit Index)	0.990	>0.90 Bentler, (1980)	Absolute Fit
		TLI (Tucker Lewis Index)	0.979	>0.95, Bentler and Bonett (1980)	Absolute Fit
		NFI (Normal Fit Index)	0.987	>0.90 Bollen (1989)	Absolute Fit
3.	Parsimonious Fit	Chi-Square/DF	51.558/13	2 to 5 Marsh and Hocevar (1985)	Absolute Fit

The table 6 shows that the considered P value is 0.000 which is more than 0.05(Hair et al 1998) which displays a perfect fit for GFI (Goodness of Fit Index) value (Hair et al 2006) and AGFI (Adjusted Goodness of Fit Index) (Daire et al.2008). Value is higher than 0.900 representing an significant good fit model. The assessed CFI (Comparative Fit Index) value is 0.990 (Hu and Bentler, 1999) which explain an good model fit of the present SEM model and also it is found that and RMSEA (Root Mean Square Error of Approximation value is 0.062 (Hair et al 2006) representing the value is below 0.080 which is lower than the threshold value. Hence the constructed SEM model is good fit for the constructed model.

3. HYPOTHESIS FORMULATION

Hypothesis has been developed to the help of construction SEM model. The hypothesis determines the impact of Teaching Skills, Self-Management Skills, Administrative Skills, Leadership skills, Interpersonal Skills, Effectiveness of Skill Development Training on Significance of Skill Development Training.

Table 7 Results of the Proposed Hypothesized Relationships

Relationship	Estimate	C.R.	Sign	Hypothesis
Impact of Job Skills on Administrative Skills	0.699	11.356	***	Supported
Impact of Job Skills on Teaching Skill	0.665	11.523	***	Supported
Impact of Job Skills on Effectiveness Skill Development Trainings	0.884	12.532	***	Supported
Impact of Job Skills on Leadership skills	0.317	6.385	***	Supported
Impact of Effectiveness Skill Development Trainings on Significance of Skill Development Training	0.803	34.051	***	Supported
Impact of Administrative Skills on Leadership skills	0.352	9.429	***	Supported
Impact of Teaching Skill on Leadership skills	0.279	7.843	***	Supported
Impact of Job Skills on Interpersonal Skills	0.493	8.332	***	Supported
Impact of Job Skills on Self- Management skills	0.570	11.523	***	Supported
Impact of Significance of Skill Development Training on Professional Growth and Career Advancement Factor (PGCAF)	1.018	12.403	***	Supported
Impact of Significance of Skill Development Training on Work Effectiveness and Personal Impact (WEPIF)	0.498	9.375	***	Supported
Impact of Leadership skills on Work Effectiveness and Personal Impact (WEPIF)	0.204	4.786	***	Supported
Impact of Leadership skills on Interpersonal Skills	0.473	13.025	***	Supported
Impact of Teaching Skill on Self- Management skills	0.444	16.253	***	Supported

Note: *** $p < 0.01$; ** $p < 0.05$

H_1: *Effect of Job Skills on Administrative Skills.*

The Beta value for impact of Job Skills on Administrative Skills is 0.699 which indicates the partial impact over Administrative Skills holding other variables as constant. The estimated positive values suggest Administrative Skills would enhance by 0.699 units for every one standardised unit change in Administrative Skills. The equation or model developed for Impact of Job Skills on Administrative Skills is significant as t-value of 11.356 is significant at 1% level of significance.

H_2: *Effect of Job Skills on Teaching Skills.*

The Beta value for impact of Job Skills on Teaching Skill is 0.665 which indicates the partial impact over Teaching Skill holding other variables as constant. The estimated positive values suggest Teaching Skill would enhance by 0.665 units for every one standardised unit change in Teaching Skill. The equation or model developed for Impact of Job Skills on Teaching Skill is significant as t-value of 11.523 is significant at 1% level of significance.

H_3: *Effect of Effectiveness Skill Development Trainings.*

The Beta value for impact of Job Skills on Effectiveness Skill Development Trainings is 0.884 which indicates the partial impact over Effectiveness Skill Development Trainings holding other variables as constant. The estimated positive values suggest Effectiveness Skill Development Trainings would enhance by 0.884 units for every one standardised unit change in Effectiveness Skill Development Trainings. The equation or model developed for Impact of Job Skills on Effectiveness Skill Development Trainings is significant as t-value of 12.532 is significant at 1% level of significance.

H_4: *Effect of Job Skills on Leadership skills.*

The Beta value for impact of Job Skills on Leadership skills is 0.317 which indicates the partial impact over Leadership skills holding other variables as constant. The estimated positive values suggest Leadership skills would enhance by 0.317 units

for every one standardised unit change in Leadership skills. The equation or model developed for Impact of Job Skills on Leadership skills is significant as t-value of 6.385 is significant at 1% level of significance.

H_5: *Effect of Effectiveness Skill Development Trainings on Significance of Skill Development Training.*

The Beta value for impact of Effectiveness Skill Development Trainings on Significance of Skill Development Training is 0.803 which indicates the partial impact over Significance of Skill Development Training holding other variables as constant. The estimated positive values suggest Significance of Skill Development Training would enhance by 0.803 units for every one standardised unit change in Significance of Skill Development Training. The equation or model developed for Impact of Effectiveness Skill Development Trainings on Significance of Skill Development Training is significant as t-value of 34.051 is significant at 1% level of significance.

H_6: *Effect of Administrative Skills on Leadership skills.*

The Beta value for impact of Impact of Administrative Skills on Leadership skills is 0.352 which indicates the partial impact over Leadership skills holding other variables as constant. The estimated positive values suggest Leadership skills would enhance by 0.352 units for every one standardised unit change in Leadership skills. The equation or model developed for Impact of Administrative Skills on Leadership skills is significant as t-value of 9.429 is significant at 1% level of significance.

H_7: *Effect of Teaching Skill on Leadership skills.*

The Beta value for impact of Teaching Skill on Leadership skills is 0.279 which indicates the partial impact over Leadership skills holding other variables as constant. The estimated positive values suggest Leadership skills would enhance by 0.279 units for every one standardised unit change in Leadership skills. The equation or model developed for Impact of Teaching Skill on Leadership skills is significant as t-value of 7.843 is significant at 1% level of significance.

H_8: *Effect of Job Skills on Interpersonal Skills.*

The Beta value for impact of Job Skills on Interpersonal Skills is 0.493 which indicates the partial impact over Interpersonal Skills holding other variables as constant. The estimated positive values suggest Interpersonal Skills would enhance by 0.493 units for every one standardised unit change in Interpersonal Skills. The equation or model developed for Impact of Job Skills on Leadership skills is significant as t-value of 8.332 is significant at 1% level of significance.

H_9: *Effect of Job Skills on Self- Management skills.*

The Beta value for impact of Job Skills on Self- Management skills is 0.570 which indicates the partial impact over Self-Management skills holding other variables as constant. The estimated positive values suggest Self- Management skills would enhance by 0.570 units for every one standardised unit change in Self- Management skills. The equation or model developed for Impact of Job Skills on Self- Management skills is significant as t-value of 11.523 is significant at 1% level of significance.

H_{10}: *Effect of Significance of Skill Development Training on Professional Growth and Career Advancement Factor (PGCAF).*

The Beta value for impact of Significance of Skill Development Training on Professional Growth and Career Advancement Factor (PGCAF) is 1.018 which indicates the partial impact over Professional Growth and Career Advancement Factor (PGCAF) holding other variables as constant. The estimated positive values suggest Professional Growth and Career Advancement Factor (PGCAF) would enhance by 0.570 units for every one standardised unit change in Professional Growth and Career Advancement Factor (PGCAF). The equation or model developed for Impact of Significance of Skill Development Training on Professional Growth and Career Advancement Factor (PGCAF) is significant as t-value of 12.403 is significant at 1% level of significance.

H_{11}: *Effect of Significance of Skill Development Training on Work Effectiveness and Personal Impact (WEPIF).*

The Beta value for impact of Impact of Significance of Skill Development Training on Work Effectiveness and Personal Impact (WEPIF) is 0.498 which indicates the partial impact over Work Effectiveness and Personal Impact (WEPIF) holding other variables as constant. The estimated positive values suggest Work Effectiveness and Personal Impact (WEPIF) would enhance by 0.498 units for every one standardised unit change in Work Effectiveness and Personal Impact (WEPIF). The equation or model developed for Impact of Impact of Significance of Skill Development Training on Work Effectiveness and Personal Impact (WEPIF) is significant as t-value of 9.375 is significant at 1% level of significance.

H_{12}: *Effect of Leadership skills on Work Effectiveness and Personal Impact (WEPIF).*

The Beta value for impact of Impact of Leadership skills on Work Effectiveness and Personal Impact (WEPIF) is 0.204 which indicates the partial impact over Work Effectiveness and Personal Impact (WEPIF) holding other variables as constant. The estimated positive values suggest Work Effectiveness and Personal Impact (WEPIF) would enhance by 0.498 units for every one standardised unit change in Work Effectiveness and Personal Impact (WEPIF). The equation or model developed for Impact of Leadership skills on Work Effectiveness and Personal Impact (WEPIF) is significant as t-value of 4.786 is

significant at 1% level of significance.

H_{13}: *Effect of Leadership skills on Interpersonal Skills.*

The Beta value for impact of Impact of Leadership skills on Interpersonal Skills is 0.473 which indicates the partial impact over Interpersonal Skills holding other variables as constant. The estimated positive values suggest Interpersonal Skills would enhance by 0.473 units for every one standardised unit change in Interpersonal Skills. The equation or model developed for Impact of Leadership skills on Interpersonal Skills is significant as t-value of 13.025 is significant at 1% level of significance.

H_{14}: *Effect of Teaching Skill on Self- Management skills.*

The Beta value for impact of Teaching Skill on Self- Management skills is 0.444 which indicates the partial impact over Self- Management skills holding other variables as constant. The estimated positive values suggest Self- Management skills would enhance by 0.444 units for every one standardised unit change in Self- Management skills . The equation or model developed for Teaching Skill on Self- Management skills is significant as t-value of 16.253 is significant at 1% level of significance.

4. CONCLUSION

This study sought to investigate the significance of skill development inside Higher Educational Institutions (HEIs) in Tamil Nadu, specifically emphasizing **teaching skills**, **self-management skills**, **administrative skills**, **leadership skills**, and **interpersonal skills**. It aimed to evaluate the influence of skill development programs on the employability and career progression of students. The analysis of characteristics including **demographic profile**, **perception of skill development**, and the **effectiveness of skill development training** yields significant insights into how educational institutions might improve skill development and employability results.

The study indicates that instructional competencies and self-regulation abilities are the primary determinants of skill enhancement in higher education institutions in Tamil Nadu. Educators possessing a robust basis in pedagogical competencies—such as curricular knowledge, creativity, and proficient classroom management—are more adept at engaging students and cultivating a productive learning environment. Self-management skills such as emotional regulation, stress management, and adaptation are essential for sustaining professional effectiveness and personal well-being. These findings indicate that skill development programs should prioritize the enhancement of both technical and soft skills, as both are vital for job success.

This study emphasizes the essential function of **skill development programs** in improving the employability of students in higher education institutions in Tamil Nadu. The results indicate that a comprehensive strategy for skill development—incorporating both technical and interpersonal skills—is crucial for equipping students for the swiftly evolving labor market. The research emphasizes the necessity for ongoing investment in public-private partnerships and self-regulated, market-driven models to synchronize educational institutions with business requirements and cultivate a more competent and employable workforce. These programs will enhance students' professional opportunities and help to the economic prosperity of Tamil Nadu and India.

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