



EFFECT OF SKILL DEVELOPMENT PROGRAM ON EMPLOYABILITY: APPRENTICESHIP TRAINING FOR GRADUATE

Pon Seelan .G

Business administration student of Hindustan Institute of technology & science, Chennai.

Dr A. R. Nithya

Associate Professor of Hindustan Institute of technology & science, Chennai.

ABSTRACT:

Purpose: The present study's goal is to determine how respondents' attitudes towards skill development program compared with higher education.

Design 'methodology approach: In this study Qualitative research approach is adopted and using a descriptive research design collected responses through convenience random sampling,

Findings: In this study it is identified two clusters namely cost oriented and Return oriented. People are attracted towards skill training provide cost efficiency comparing with higher education and to avail the placement opportunity.

Practical implications: This study is intended to provide key inputs for the educational institutions and training organisations for focusing on employability by including skill development programs in their curriculum

Keywords: skill development, higher education, cost oriented, return oriented.

INTRODUCTION:

The traditional model of higher education, which focuses on theoretical knowledge acquisition, is under growing investigation in a constantly changing job market. Graduates frequently find themselves without the practical skills required by employers, resulting in skill gaps and underemployment. This conflict demands a change in approach, with higher education embracing skill development programs that bridge the theory-practice gap. Apprenticeship training, an established method of on-the-job learning, presents itself as a desirable choice for graduates looking to expand their skill sets and improve their employment prospects. This study examines the essential factors impacting the effectiveness of skill development programs in higher education. We hope to gain an understanding of how these programs can be effortlessly incorporated into the existing curriculum by examining how they relate to traditional studies. Furthermore, the study focuses on the specific effects of apprenticeship training on graduates. Exploring the linkages between theoretical understanding and practical application obtained via apprenticeships can provide useful insights into preparing graduates for success in the workplace. The potential to guide the creation of strong skill development programs in higher education institutions. Close the gap between theoretical knowledge and practical application by identifying important program efficiency variables and examining the relationship between apprenticeships and graduation results.

TRIGGER OF STUDY:

WHICH DOMAINS HAVE MORE EMPLOYABLE TALENT?

← YEARS →

SKILLS	2014	2015	2016	2017	2018	2019
B.E/B.Tech	51.74%	54.00%	52.58%	50.69%	51.52%	57.09%
MBA	41.02%	43.99%	44.56%	42.28%	39.4%	36.44%
B.Arts	19.10%	29.82%	27.11%	35.66%	37.39%	29.3%
B.Com	26.99%	26.45%	20.58%	37.98%	33.93%	30.06%
B.Sc	41.66%	38.41%	35.24%	31.76%	33.62%	47.37%
MCA	43.62%	45.00%	39.81%	31.36%	43.85%	43.19%
ITI	46.92%	44.00%	40.90%	42.22%	29.46%	NA
Polytechnic	11.53%	10.14%	15.89%	25.77%	32.67%	18.05%
B.Pharma	54.65%	56.00%	40.62%	42.30%	47.78%	36.29%

In the table, the higher education having MBA, MA, MCA all kind of thing the employability level is comparatively not good. when comparing with the growth of the population for employability a rate includes some additional skills to be trained for the graduates so either They should go for the skill development training develop training by stopping their studies. After completing the UG either, they should go for skill development training or the PG program so even with the PG along with a project, they can go for additional skill development programs in our study we have studied the correlation between skill development training and whether it is for the higher education or not, so mainly people chose the higher education for their employability. when it is not achieved some amount of additional things to be added so some additional things here. Skill development training as a factor is to be added to higher education.

RESEARCH GAP:

Based on this literature review there are various studies conducted on relationship of skill development program with higher education. There is a research gap to understand the correlation between apprenticeship training and placement. And most of the studies were done in meraly on higher education. So, it is understood that there is a huge scope for research in the domain of impact of factors affecting the skill development program. The following research gaps were identified and will be addressed through this study based on the literature survey:

- There were few number of research in the apprenticeship training program.
- No studies were found on an association between apprenticeship training correlated with higher education.
- Lack of framework for the effect of skill development program for higher education.

In light of the research gaps identified, the topic of "Effect of skill development program on higher education: apprenticeship training for graduate" was chosen for the present study.

OBJECTIVES OF THE STUDY:

- Analysing the economic benefit, individual development, organizational and social development factors affecting the skill development program.

- Analysing the relationship between apprenticeship training with higher education graduate.
- Examine the relationship of skill development program with higher education to improve the employability.

REVIEW OF LITERATURE:

Daniel Kuehn, (2022), In this research that evaluates the economic benefits of firms building their own staff through an American Apprenticeship Initiative registered apprenticeship program. he describes the costs, benefits, net benefits, and expected return on investment (ROI) that firms can expect from participating in these programs. **Ayyakannu,(2020)**, in his research he found that the factors enhance the engineering diploma holder skill sets following a year of industry-based training by bettering the apprenticeship program. In his study he points out the most essential points such as industry of international repute, followed by value of apprenticeship training that leads to job opportunities in other industries, higher stipend and possibility of absorption as regular employees. **Robert Lerman,(2020)**, in this report he noted policy actions to enhance worker training and increase productivity and wages:1. Increase access to in-demand training by improving information, technology, and targeted funding. 2. Improve vocational and technical education and training to align with employer needs through competency-based training, career pathways, and skill certification/verification. 3. Create an apprenticeship system that focuses on hands-on learning and production, leading to a valued occupational qualification. **Alexander Patzina,(2020)**, in this research he found that individuals who drop out of education or training programs later in their academic or occupational careers have higher employment rates and higher salaries than those who drop out early. In this study he pointed out comparison to those who have completed their school or training programs. When compared to graduates or those who have completed their school, late dropouts continue to experience a wage drawback. Generally speaking, their pay profiles vary from those of graduates. **Michaela Brockmann,(2020)**, In this research he noted that help to strengthen the workplace training component of the new apprenticeship. in this study he pointed out Work with the training provider to agree on the content of the apprenticeships and to monitor progress, and serve as the apprentice's point of contact for assist and direction. And training received by entry-level employees applying for the same position. **Leseley page,(2020)**, in this research he found presented on a skills gap crisis, higher education, technical and interpersonal skills training, person-organization and person-job fit, and realistic previews to evaluate a professional apprenticeship program in terms of employee benefit, organization, and evaluation of important organizational outcomes such as job performance, satisfaction, and retention. **Rae Mancilla,(2019)**, in this research he found the growth of instructional designers through apprenticeship training, which can be divided into four stages: (1) Observation and Modelling, (2) Tasks with Coaching, (3) Contextualized Practice, and (4) Reflection and Exploration of the training can be guided by knowledgeable professionals in the field who assign various tasks to gain different skills. **Lul Tesfai,(2019)**, in this paper he found that apprenticeship training creates a pathway to a college degree. community college and corporate partner believe that degree

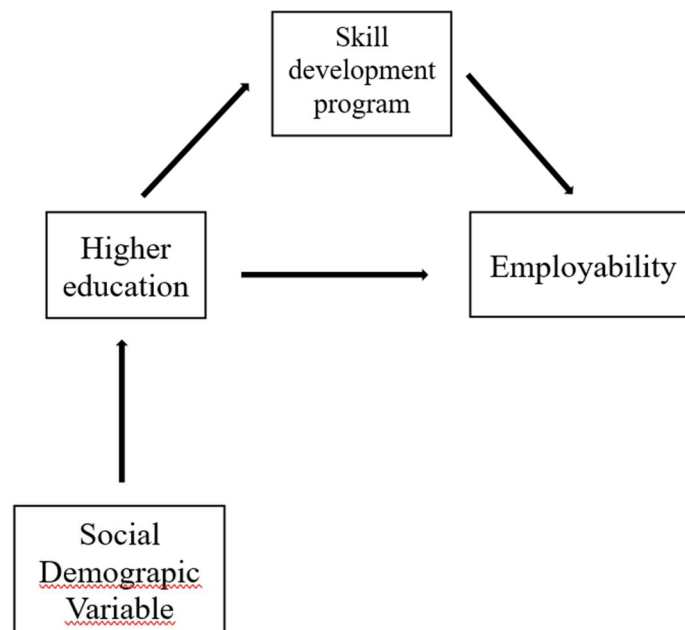
apprenticeship is the best educational and training strategy for preparing a qualified workforce. Principles for designing high-quality programs. In this study he pointed out Student-centred, career-specific, permeable, portable, and accountable programs are used to improve the efficiency of degree apprenticeships. **Robert Lerman,(2019)**, in this research he found that improve apprentice skills and jobs by increasing apprentice training across different industrial sectors. Young people gain knowledge by working with adults who have experience in the field to do simple tasks. He pointed out apprenticeship workers can acquire various job-related abilities such as problem-solving, communication, resource allocation, and interaction with supervisors and a wide variety of co-workers in addition to important vocational skills. **Susan crane (2019)**, in this research he found apprenticeship, despite its long tradition, is still a developing discipline. It implies that we require a favourable atmosphere to facilitate its growth. He pointed out emphasis is on employer-led training for genuine employment, with reasonable wages that support families and opportunities to work while learning. **Myriam Sullivan (2018)**, in this research he found highlight excellent employer involvement methods and identify significant lessons learned from creating technology-focused apprenticeship programs. He pointed out engage employee, promote training for young people, finance the program. **Allison beer. A (2018)**, in this research he found overview of the registered apprenticeship program. It also covers a lot of barriers to further expansion, as well as program improvement ideas. He pointed out Increase and coordinate financing for postsecondary education and workforce development. Expand apprenticeship opportunities emerging industries like health care and information technology. Increase the variety of participation, particularly through useful approach to communities of women. Increase access to pre-apprenticeship and youth apprenticeship programs. **Stefan C. Wolter (2018)**, in this research he found that apprenticeship training in cost effective model for firm. He pointed out cost that arise during the training, firm can letting apprentice substitute skilled worker, filling vacancies for skilled worker. **Susan helper (2016)**, It is focused on decisions and best practices for businesses seeking apprenticeships. Determine the entire expenses of apprenticeship and the costs of other employment techniques, as well as the quantifiable advantages of apprenticeship. Look for data within the firm to measure advantages. To understand the costs and benefits of apprenticeship training. Hear directly from these companies about their apprenticeship programs. **Adeyeye. J.O (2015)**, that the apprenticeship program significantly improves workers' ability to gain new skills in the unorganized sector. This shows that a worker's ability to acquire and develop new skills is greatly influenced by training resources, on-the-job training, educational attainment, mentor-mentee relationships, and observation. The amount of mentorship on skills provided by the apprenticeship system is increased by the on-the-job training that apprenticeship programs offer. The majority of people have historically learned their abilities, attitudes, and information from casual educational institutions some of these include lacking the necessary skills to obtain employment. **Krystyna Sonnenberg (2012)**, in this research he found in how the governments of Ghana and Senegal attempted to improve quality of non-formal skills training. Some programs aimed at improving traditional apprenticeships emphasize higher education and urban regions.

Ghana's National Employment Policy highlights the issues of high unemployment and under-employment rates among vulnerable populations like as youth, women, and people with disabilities. The policy aims to mainstream these groups and make them productive. Ghana's NAP and other national skills training programs generally focus on urban youngsters with a basic education. **Vanessa P. Dennen, (2012)**, in this research he found that cognitive apprenticeship can be used broadly holistic approach educational application improve learning and explore complete techniques of applying cognitive apprenticeship in educational contexts. This list includes theoretical or simply descriptive works on instructional initiatives, software, or practice aspects. He pointed out (1) the cognitive apprentice model in instructional settings, (2) specific instructional strategies (e.g. monitoring, scaffolding), and (3) cognitive apprenticeship within communities of practice. **Giorgio Brunello, (2009)**, in this research he found that during economic downturns, businesses may have motives to train their current employees while reducing hiring and training new ones who are just starting out. They may do this because investing in the talents of existing employees who are already familiar with the job is less expensive than hiring new employees. **Brockmoller A.A.C. (2008)**, in this research he found that purpose of expert-apprentice relationships is to improve information sharing between an expert and an apprentice within an organization. He pointed out quality of a social relationship is determined by (1) perceived openness, (2) the interaction channel employed, (3) trust, and (4) prior experience and knowledge. The first criteria for a good social and professional relationship between knowledge sharing participants is the partner's perceived openness

RESEARCH METHODOLOGY:

In this study, we have adapted a qualitative research approach using a descriptive research design following cluster sampling, and we have chosen 130 sampling units.

PROPOSED RESEARCH MODEL:



DEMOGRAPIC ANALYSIS:

DEMOGRAPIC VALUES	PARAMETERS	FREQUENCIES	PERCENTAGE
Age	Below 18	6	4.4
	18-25	86	63.7
	25-30	37	27.4
	30-35	6	4.4
Gender	Male	68	50.4
	Female	61	45.2
	Prefer not to say	6	4.4
Education	Ug	50	37
	Pg	65	48.1
	Diploma	20	14.8
Income	20-30k	60	44.4
	30-40k	47	34.8
	40-50k	23	17
	50-60k	5	3.7
Location	Rural area	36	26.7
	Semi-urban area	56	41.5
	Urban area	43	31.9
Occupation	Self-employed	23	17
	Private sector	80	59.3
	Govt sector	12	8.9
	Job seeker	20	14.8

HYPOTHESIS TESTED:

H1: Analysing the relationship between social demographic variable and prefer to choose skill development program and higher education.

H2: Analysing the relationship of higher education is correlated with employability.

H3: Analysing the relationship between higher education and employability through skill development program.

Reliability Statistics	
Cronbach's Alpha	N of Items
.967	21

To check the reliability of the data, we have taken 21 items and got Cronbach's alpha of 0.967, which is higher than 0.5, so the data are more reliable for the study.

Test applied	Hypothesis Tested	P value	Result
Chi-square test	There is a relationship between income and Skill development training provide cost effectiveness	0.138	Hypothesis rejected
H-Test	There is a relationship between gender and Skill development training provide cost effectiveness comparing with other educational course	0.001	Hypothesis accepted
U-Test	There is a relationship between education and It improves placement in industries	0.085	Hypothesis rejected
U-Test	There is a relationship between occupation and Skill training improve worker mobility	0.492	Hypothesis rejected
U-Test	There is relationship between education and Due to skill training employment rate improve	0.110	Hypothesis rejected
Weighted average	In this weighted average analysis, both income spending for the family and higher education is theoretical oriented having a 2.56 mean. This two main factors influencing the skill development program plays a significance role.		

ANALYSIS AND FINDINGS:

WEIGHTED AVERAGE:

Descriptive statistics	N	Minimum	Maximum	Mean	Std. Deviation
Skill development training provide cost	135	1	5	2.15	.974

effectiveness comparing with other educational course					
It promotes more amount of saving comparing with normal academic course	135	1	5	2.42	.966
It improves per-capital income	135	1	5	2.34	1.087
It increases allocable income spending for the family	135	1	5	2.56	1.077
It improves a salary of the person	135	1	5	2.48	1.057
It improves placement in industries	135	1	5	2.39	1.147
Valid N (listwise)	135				

The variable that affects the economic benefit factor chosen for this analysis is that skill development training will provide cost-effectiveness compared with the higher education course. It promotes the amount of saving, the normal academic course and it gives a perpetual income for the people and it increases the allocation of income for spending for the family, it improves the salary of the person, that is employability is more this all is the factor chosen for the analysis. The mean value ranges from 2.56-2.15 the highest mean value for the variable is it increases allocable income spending for their family. when the respondent is engaged in the skill development program, the allocable income spending of the family will increase. That is, when they enrolling themselves in the academic course if they find it more profitable with this skill development program the deviation is very high. For this, the standard deviation value will start from 1.147-0.966, so the value is higher because it improves the placement in industries, so if there is any default occurs in the skill development training, it affects the student placement in the industries.

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
It bridges the individual skill gap and industrial expectation	135	1	5	2.12	1.030
It helps school dropout in getting their job	135	1	5	2.46	1.020
Industry based training improve skill requirement of the job	135	1	5	2.37	1.049
Career growth will be better	135	1	5	2.32	1.063
Comparing with higher education skill development program provides cost friendly for the middle income group	135	1	5	2.43	1.169
Valid N (listwise)	135				

In this analysis we have chosen individual development factors that affect the employability of the person the variables taken for the analysis such as It bridges the individual skill gap and

industrial expectation, It helps school dropouts get their job, Industry based training improves skill requirement of the job, Career growth will be better, Comparing with higher education skill development program this kind of program provides cost-friendly type of education. The mean value ranges from 2.46-2.12, the highest mean value scored by it helps school dropout student get their job. When more schools drop out there due to their financial crisis, Many students are not able to continue their school education, so this kind of skill-oriented training helps people to get a focused job for their career.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Skilled trainer support the organizational objectiveness	135	1	5	2.38	1.112
Skill training improve worker mobility	135	1	5	2.39	1.073
Skill training promote work diversify culture	135	1	5	2.46	1.098
Skilled employee are the human assets	135	1	5	2.37	1.111
Profitability of the organization depend on the skill set of the employee	135	1	5	2.43	1.207
Comparing with higher education skill oriented training more effective	135	1	5	2.38	1.165
Valid N (listwise)	135				

In this analysis we have chosen organizational development factors that affect the employability of the person the variables taken for the analysis such as Skilled trainers support organizational objectiveness, skill training improves worker mobility, skill training promotes work diversify culture, the skilled employee is the human assets, the profitability of the organization depend on the skill set of the employee, comparing with higher education skill-oriented training more effective. The mean value ranges from 2.46-2.37 the highest mean value scored by Skill training promotes work diversify culture. When people get trained in their skill-oriented job-oriented training, they make a mobility to work some other place automatically people will help the diversified culture in the working environment.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Due to skill training employment rate improve	135	1	5	2.34	1.038
Standard of living will get improve	135	1	5	2.44	.990
Benefit from higher education is theoretical oriented	135	1	5	2.56	1.083
Skill training provide hands on experience to the trainee	135	1	5	2.44	1.238
Valid N (listwise)	135				

In this analysis we have chosen social development factors that affect the employability of person the variables taken for the analysis such as Due to skill training employment rate improve, Standard of living will improve, Benefit from higher education is theoretically oriented, Skill training provides hands-on experience to the trainee. The mean value ranges from 2.56-2.34, the highest mean value scored by Benefit from higher education is theoretical oriented.

REGRESSION ANALYSIS:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812 ^a	.660	.650	.692
a. Predictors: (Constant), It increase allocable income spending for the family, It helps school dropout in getting their job, Benefit from higher education is theoretical oriented, Skill training promote work diversify culture				

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	120.856	4	30.214	63.123	<.001 ^b
	Residual	62.225	130	.479		
	Total	183.081	134			
a. Dependent Variable: Comparing with higher education skill development program provides cost friendly for the middle income group						
b. Predictors: (Constant), It increase allocable income spending for the family, It helps school dropout in getting their job, Benefit from higher education is theoretical oriented, Skill training promote work diversify culture						

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.193	.178		-1.086	.279
	Skill training promote work diversify culture	.307	.080	.288	3.827	<.001
	It helps school dropout in getting their job	.193	.080	.168	2.420	.017
	Benefit from higher education is theoretical oriented	.271	.078	.251	3.482	<.001
	It increase allocable income spending for the family	.274	.082	.252	3.347	.001
a. Dependent Variable: Comparing with higher education skill development program provides cost friendly for the middle income group						

In this regression analysis in the model summary table R-value = 0.812. it indicates the strongest positive correlation existing between a dependent variable and independent variable, here the dependent variable is compared with higher education skill development programs provide cost friendly for the middle-income group and the independent variable is skill development programs increase income spending for the family, It helps school dropout in getting their job, Benefit from higher education is theoretical oriented, Skill training promote work diversify culture taken for the analysis. On the R square, the value is 0.66. 60% of independent variable affects this relationship, here the ANOVA table the F value is 63.12 which is significant so the model is fit for doing the regression analysis, in the coefficient table we found that Skill training promotes work diversify culture, It helps school dropout in getting their job, Benefit from higher education, allocable income spending for the family all the independent variable are significance these all are the variable influencing the dependent variable that is comparing with higher education skill development program provide cost-effectiveness for the middle-income group family.

CORRELATIONS ANALYSIS:

Correlations			
	Benefit from	Skill training	Career growth

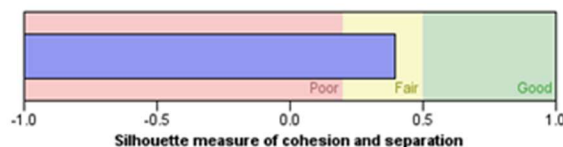
		higher education is theoretical oriented	provide hands on experience to the trainee	will be better
Benefit from higher education is theoretical oriented	Pearson Correlation	1	.622**	.699**
	Sig. (2-tailed)		<.001	<.001
	N	135	135	135
Skill training provide hands on experience to the trainee	Pearson Correlation	.622**	1	.620**
	Sig. (2-tailed)	<.001		<.001
	N	135	135	135
Career growth will be better	Pearson Correlation	.699**	.620**	1
	Sig. (2-tailed)	<.001	<.001	
	N	135	135	135
**. Correlation is significant at the 0.01 level (2-tailed).				

In the above analysis variable we have chosen is the benefit from higher education is theoretically oriented and skill training provides hands-on experience for the trainee and career growth will be better. So we want to check the relationship between apprenticeship training and graduate attitude about skill development training these are the variables taken for the correlation analysis out of which higher education is theoretically oriented this getting highly correlated with career growth will be better. When the respondents highly feel that higher education is nearly theoretical oriented they need some practical exposure then only the career growth will be better that is the reason they are going for skill development training and the mean value is 2.56 is the higher score meant for the higher education is theoretically oriented and the standard value is higher else skill training provides a hands-on experience that is when the skill training also provides the theoretical basics mean people will get dissatisfied when it provides hands-on experience people are getting attracted towards skill development training

Model Summary

Algorithm	TwoStep
Inputs	28
Clusters	2

Cluster Quality



CLUSTER ANALYSIS:

Final Cluster Centre			
	Cluster		
	1	2	3
Skill development training provide cost effectiveness comparing with other educational course	2	3	2
It promote more amount of saving comparing with normal academic course	3	4	2
It improves per-capital income	2	4	2
It increase allocable income spending for the family	3	4	2
It improve a salary of the person	3	4	2
It improve placement in industries	3	4	2
It bridges the individual skill gap and industrial expectation	2	4	1
It helps school dropout in getting their job	3	4	2
Industry based training improve skill requirement of the job	3	4	2
Career growth will be better	2	4	2
Comparing with higher education skill development program provides cost friendly for the middle income group	3	4	2
Skilled trainer support the organizational objectiveness	2	4	2
Skill training improve worker mobility	3	4	2
Skill training promote work diversify culture	3	4	2
Skilled employee are the human assets	3	4	2
Profitability of the organization depend on the skill set of the employee	3	4	2
Comparing with higher education skill oriented training more effective	2	4	2
Due to skill training employment rate improve	3	4	2
Standard of living will get improve	3	4	2

Benefit from higher education is theoretical oriented	3	4	2
Skill training provide hands on experience to the trainee	3	4	2

CLUSTER ANALYSIS:

Cluster 1-cost oriented: In this investigation, it is discovered the cluster using cluster analysis. Most of the individual drawn skill training provide cost efficiency comparing with higher education, It improve wealth of a person.

Cluster 2-return on investment: This cluster group is based on creating the opportunity in industries to get a job, and get a return from the investment.

FINDINGS AND CONCLUSION:

In our study, we are suggesting that for higher education, the higher when higher education is completely theory-oriented, it will not give a much amount of employability for the students, so industry-institute interaction should be happening so based on the industry-institute interaction, some skill development training program has also to. Be included in the curriculum and for more in the employability rate of the student skill development program which had a higher impact in the you may apply the ability, so it will create a create a sense of job security for the students. Also, so we are suggesting that a skill development program can also be included in higher education for the betterment of their Employability rate.

PRACTICAL IMPLICATION:

In this study tests the social demographic variable with the skill development training methods attitude of the people for making their investment in the skill development program. So in gender versus skill, development training programs provide cost-effectiveness compared with other higher education courses here our hypothesis getting accepted with the P value of 0.001 that is male, as well as the female that is, gender-wise classification shows a significant influence on the chosen skill development training program, along with the higher education studies again. When we have, we have so in this study we have administered we have. We have used the chi-square test as well as U- tests for testing the social demographic variable impact on the skill choosing the skill development program. But here the null hypothesis is accepted so when all kinds of income levels, people want to elevate their skills for the employee for their employability, so whatever the income people want. Make their investment in skill development training. Also, even in education. Also, a hypothesis is getting rejected, so the education needs to improve in the placement of the industry so whatever the education has UG or PG, what they feel is a for getting the placement for getting the improved placement in their education in the industry skill development program is to be considered as a major factor so we have identified 2 clusters in our analysis. Those clusters are cost-oriented and return-oriented. So cost-oriented people are going for skills development programs because they provide cost-efficiency compared with higher

education. when they invest their money in a skill development program, it is directly correlated with the skill development that is needed in the industry side so the employability rate is high in the skill development program compared with the higher education, return-oriented so here make their investment in skill development program just to get the job in the industry. Here the employability rate is high, so they want to have what is the amount they have invested for the skill development, return. Assured, so they want to choose their skill development training as there. the main focus of the investment.

REFERENCE:

1. **Daniel Kuehn (2022)** Do employers earn positive returns to investments in apprenticeship, report prepared for the U.S. Department of Labor, Employment and Training Administration. Rockville.
2. **Ayyakanu (2020)** a study on factors influencing the effectiveness of technician apprenticeship training in mechanical and automobile engineering, work done by me at NITTTR, Chennai.
3. **Robert Lerman (2020)** Training for Jobs of the Future: Improving Access, Certifying Skills, and Expanding Apprenticeship, help of Institute of Labor Economics (IZA), Bonn work can be done.
4. **Alexander Patzina (2020)** Early Careers of Dropouts from Vocational Training: Signals, Human Capital Formation, and Training Firms, *European Sociological Review*, Volume 36
5. **Michaela Brockmann (2020)** On-the-job training in apprenticeship in England, Published by: University of Southampton, Southampton
6. **Lesley page (2020)** skills gap challenge: how apprenticeship program address skill building and educational advancement, published by journal of organizational psychology.
7. **Rae Mancilla (2019)** A Model for Developing Instructional Design Professionals for Higher Education Through Apprenticeship published by The Journal of Applied Instructional Design, 9(2).
8. **Lul Tesfai (2019)** Creating Pathways to College Degrees Through Apprenticeships Author(s) published by New America
9. **susan crane (2019)** Apprenticeship: training that works background and recommendations, published by workforce matters and aspen institute.
10. **Myriam sullivan, (2018)** Effective employer engagement practices, published by JFF.ORG
11. **Beer, A. (2018)** Apprenticeships: An emerging community college strategy for workforce development Published by Association of community college trustees.
12. **Stefan C. Wolter (2019)** Apprenticeship training in England – a cost-effective model for firms? reported by Education Policy Institute.
13. **Susan Helper (2019)** The Benefits and Costs of Apprenticeships: A business perspective, published by economics and statistics administration.

14. **Adeyeye, J.O (2015)** The Effects of Apprenticeship System on Skill Development of Employees in the Printing Industry in Lagos State, published by British Journals ISSN 2048-125X.
15. **Krystyna Sonnenberg (2012)** Traditional Apprenticeship in Ghana and Senegal: Skills Development for Youth for the Informal Sector, published by , Journal of International Cooperation in Education
16. Vanessa P. Dennen (2012) The Cognitive Apprenticeship Model in Educational Practice.
17. **Giorgio Brunelloa (2009)** The effect of economic downturns on apprenticeships and initial workplace training: a review of the evidence. Published by Empirical Research in Vocational Education and Training
18. **Brockmöller, A.A.C. (2008)** Knowledge sharing in expert-apprentice relations, published by University of Groningen.