



Role of Vocational Training Effectiveness and Employment Outcomes in Sustainable Quality Education

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Abstract:

Rapid change in social, economic, and ecological environment bringing persistent challenges in every nation. The demand of knowledge, skills, education is changing drastically and coping with such changes is the big problem for every economy. From the time when SDG have emphasized more on vocational training program for sustainable growth, nations initiated to focus on vocational training programs and constantly updating training accordance with the changes as vocational training playing a significant role in manpower development and sustainable quality education. It is well known fact that efforts will be productive if the efforts are effective in nature. Government bodies, institutions are putting tremendous efforts towards making vocational training effective, but results are still questionable. With raising importance of vocational training worldwide, this is the original empirical study to examines the effectiveness of vocational training and explore its relationship with employment outcomes and quality education. Therefore, the aim of the paper is to identify those critical factors who can contribute to make training more effective. Secondly, paper is not also examining the role and contribution of effective vocational training in employment outcomes but also identifying the relation between quality education and employment outcome.

The study collected data from 513 trainees and 25 training centre managers through self-administered questionnaire. Various tools like factor analysis, descriptive analysis, structured equations modelling, and analysis of variance was applied to analyse the data. The result uncovered four major factors: Trainee's characteristics, Environment support, Training atmosphere and Interaction process among parties which can enhance the effectiveness of vocational training. Furthermore, result also stated that there is a positive relationship between effective vocational training and employment outcomes and positive relationship between quality education and employment outcomes.

Keywords: Vocational Training, Quality Education, Sustainability, Employment outcomes, Skill Mapping, Training Effectiveness, Sustainable Development Goals, SDG4

1. Introduction

Labour markets has been changed across the world and finding appropriate job has become challenge for people. Shortages and mismatch of suitable skills are not a novel issue but in some developing countries it become severe. [1] Youth is suffering from

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high unemployment due to unavailability of requisite employability skills. Such countries are considering Vocational training as a solution for enhancing the capacity of youth to overcome from unemployment solution. Appealing young generation towards different forms of vocational education and training (VET) programmes has been connected to their social and economic life.[2] It become an important tool to connect youth into labour market through equipping them with employable skills. Such vocational training programs are using new teaching and learning approaches so that programs can equip young people with real life skills to employ after graduation.[3] Even UN General Assembly identified Vocational training as one of the significant tools to achieve S2030 agenda for SDGs which says that by 2030 number of youths with relevant skills including vocational skills will significantly increase for employment.[4]

Training is a systematic learning experience method to transform a people's attitude, skills, and knowledge for providing better career opportunities in competitive environment. Training effectiveness is completely dependent upon the outcome specially employment outcome.[5] Training is unsuccessful if it failed to maintain and develop employment situations or build employable skills to get the paid jobs. It is significant to identify effectiveness of vocational training to measures the training outputs and trainees' behaviour at work.[6] There are several factors like Training program characteristics, characteristics of trainees, trainers' expectation, atmosphere and most important pre -post training evaluation etc influence effectiveness of vocational training. Employment outcomes also include various indicators like employment rates, Job placement rates, wage level etc which contribute to the assessment of vocational training effectiveness.[7]

The primary aim of the research study is to identify critical factors affecting vocational training effectiveness. The study seeks to examine the role of effective vocational training program towards employment outcomes and lastly the paper also discusses the role and contribution of effective vocational training and sustainable quality education toward employment outcome.

2. Literature Review

Effectiveness of vocational training program is a global concern as it inculcates job related skills and competencies for unemployed and suffered youths. There are several factors which influence the effectiveness of vocational training. The study focusing on the following factors: Trainee's characteristics, Environment support, Training atmosphere, Interaction process among parties.

2.1 Trainee's Characteristics

Abilities, Attitude, self-efficacy, Personality, Experience learning motivation, are factors that significantly affects training effectiveness. But out of them Self-efficacy and learning motivation have specific importance as factors in Training effectiveness. Self-efficacy is an person's belief in themselves about capability to complete certain

activities and achieving success. It's a main factor which define an individual's behaviour, perseverance in hard time, degree of effort and ability to change their behaviour in different situations. People with high self-efficacy are highly dedicated and committed to their work.[6] They put their effort consistently to achieve their goals. Learning motivation of trainees is the essential factor that affects whether training is conducting effectively and successfully. It refers to a psychological need that move an individual to achieve success and achieve learning attainments. It drives the motivation of a trainee from pre training to gaining post training outcomes.[8]

2.2 Environment Support

Sometimes the economic system in which the training is conducting also affects training effectiveness. The operating environment of the system includes structure, dynamism, internationalization, position, and social system. The level of VT opportunities people is getting, the level of effort putting by government for providing training to those who belongs to unregulated economic activities as they contribute a lot in the economic development of the country.[9] Due to globalization, countries are opening their economy for foreign direct investment and permit them to start their businesses in new era of industrialization. Because the main aim of the VT program is to provide updated skilled manpower in labour market and if such skill-based jobs are missing, people will stop taking interest in such training programs.[3]

2.3 Training Atmosphere

The atmosphere of training also plays a significant role in successful execution as well as effectiveness of the organization. The level of attention, behaviour of trainer, availability of facilities, Motivation factors for trainees, industries, government institutions and facilitators.[10] It is very essential to give individual attention to trainee in the context of sharing of information, prompt responses, willingness to help, understanding specific needs which are the biggest motivational factors for the trainees. [11]Furthermore, the education level, qualification, experience, knowledge, and most important trainers' behaviour towards trainees also have great contribution in making the training effective. The motivation level of government institutions and facilitators as they act as key drivers of development agenda is also essential.[12].The availability of facilities like materials, modern looking equipment, tools, curriculum, new technologies, instructional aids etc for conducting practical work is also major factor which contribute to skill development and make the training helpful.[13]

2.4 Interaction process among Parties

Training is a two-way process which involves variety of parties like trainees, trainers, employers, and government certified agencies to interact with each other. Interaction between such parties is the key to the effectiveness of Vocational training.[14] Each party has a specific role in training. Trainers are the senior employees who are the mentors and transfer their knowledge and share their experience. Employers are those who are looking for skilled manpower and taking services from VT. Government certified agencies who have authority to evaluate the process and issue certificate. For

the effectiveness of vocation training there must be a good interaction among parties. Interaction can be at individual level, organization level and societal level.[15]

3. Research Objectives and Research Methodology

SDGs are the combination of 17 goals which are adopted by UN General Assembly in 2015 to finish poverty, safe planet and ensure peace and prosperity. Vocational training is one of the components who can contribute to achieving these goals because it helps people to learn and develop new skills which is crucial for sustainable development and economic growth. [16]Specifically, SDG 4 aim is to ensure quality education with lifelong learning through involvement of vocational training. Therefore, Vocational training programme effectiveness is the high concern in all over the world. Lack of practical and updated skills among youth leads towards the unemployment which is the biggest hole in the economic and sustainable growth of the nations.[17] Hence, it is required to assess the impact of key factors who can improve the training effectiveness as well as contribute in high employment outcomes for quality sustainable education.

The three major objectives of this study are:

To evaluate the impact of critical factors towards effectiveness of vocational training.

To determine the role and contribution of effective vocational training in high employment outcomes.

To study the relationship between the effective vocational training and employment outcomes with quality sustainable education.

The study is significant as it provides a new insight about the variables which can improve the effectiveness of vocational training. The finding will motivate all the stakeholders who are directly / indirectly involve in vocational training programs and putting their efforts for high and effective employment outcomes.

To achieve the above stated objectives, the three hypotheses were framed. Figure 1 explain the research structure of the study.

H1: There is a positive relationship between effective training effectiveness and Employment outcome.

H2: There is a significant contribution of quality education in employment outcome.

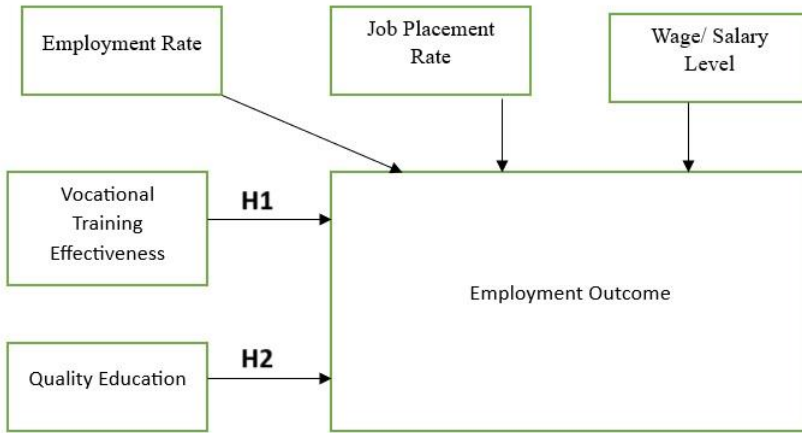


Figure 1: Research Structure (Author's own creation)

Self-administered questionnaires were sent to 513 trainees who have completed Vocational training courses and 25 training centre managers in India. The reason for choosing the self-administered questionnaire was that it is time and cost saving, easy to reach maximum respondent through internet. The raw data was inserted in SPSS software for statistical analysis. We applied Factor analysis, Structured equation modelling through Smart PLS4.2 instead of regression analysis.[18].In addition to descriptive statistics, factor analysis including Exploratory Factor analysis was applied using Principal Component analysis, with Varimax rotation to explain variance among observed, correlated variables called factors. Moreover, the major reasons for applying SEM are firstly, it estimates the model with any sample size. Secondly, it can measure direct and indirect effects simultaneously. Lastly, its capable to evaluate both structural model and measurement model.[19]

Demographic profile (Age, gender, education qualifications, employment status before vocational training) of trainees were also collected. Data revealed that 51.8% were male and 48.2% were female trainees. Age of the sample shows that Majority of trainees (57.2%) were of 25-30 years old. Additionally, most of the female and male trainees (95.9%) were completed their 12-class certificate. It is interesting to note that, unemployed males (38.5%) and females (38.7%) are almost having equal level which means most of the trainees (77.2%) were unemployed. This motivates them to develop the job-related skills.

In evaluation of measurement model, construct reliabilities and validities were examined. Cronbach's Alpha and Composite reliability test were applied to test reliabilities. Composite reliability value and cronbach's Alpha score must be above 0.70 for adequate recommendation[20].Cronbach's Alpha and was ranging from 0.871

to 0.951 which are within the cut off value. Convergent validity will be achieved when the value of AVE exceeds 0.50.[21]. AVE value is ranging from 0.629 to 0.833 which means convergent validity is maintained. For discriminant validity test, the square root of any AVE must be greater than its correlation. Therefore, there is no issues regarding reliability and validity.[22]

4. Data Analysis

4.1 Factor Analysis

Factors were drawn through the opinion shared by trainees and training centre managers.

To check the normal distribution of data KMO test was applied whereas Bartlett test has been applied to find out whether data is suitable for factor analysis or not.[23] In the present study, KMO values is not less than 0.5 which is unacceptable. The KMO value is .894, which is more than 0.5 which indicates that the degree of strong partial correlation among variables [24]Hence, it is plausible to conduct factor analysis and the result of Bartlett test of chi square is 16358.068 with degree of freedom is 298 and sig. level is .000 as shown in Table 1

Table 1:KMO and Bartlett's Test

KMO Value	.894
Bartlett's Test of Sphericity.	
Approx. Chi-Square	16358.068
Degree of freedom	300
Significant Level	.000

Source: Author’s own calculations

Further, factor analysis was applied to group these factors and identify a common factor which represent these factors. The techniques used for this analysis was Factor Analysis technique using Principal Component Method. [25]

Further, factor analysis was applied on these factors to see whether these factors can be grouped and define a common factor representing these factors. Factor Analysis technique (Principal Component Method technique) were used for this analysis.

Out of several factors only four factors were obtained with eigen value of 1 and >1 through factor analysis.[26] Further based on the analysis these factors were grouped into four categories viz Trainee’s Characteristics, Environment Support, Training Atmosphere, and Interaction process among Parties which are the major factors affects the effectiveness of vocational training. The described analysis is shown in Table 2

Table 2: Total Variances Explained

Factors	Eigen Values	Variance %	Items Covered	Factors Loading
Trainee's Characteristics	9.433	20.250	Ability to learn new skills	.881
			Learning motivation to learn skills	.820
			Self-efficacy to achieve success	.756
			Personality of new joiners	.709
			Experience level of trainee's	.688
Environment Support	3.218	14.276	Opportunities in vocational training	.755
			Employees from unregulated and unorganized skills sector	.714
			Skilled manpower needs and demand	.645
Training Atmosphere	2.856	12.200	Training Infrastructure, apparatus, tools, machinery, labs	.810
			Qualified training provider	.755
			Multidisciplinary training programs	.685
			Motivation level of government and facilitators	.656
Interaction process among Parties	1.936	11.742	Interaction between Vocational Training institutions and Employer	.791
			Interaction between trainer and trainee	.796
			Interaction between employer and trainer	.751

Source: Author’s own calculations

4.2 Hypothesis Testing

H01 There is a significant relationship between effective training effectiveness and Employment outcomes.

The purpose of Vocational training is to generate employment and developing skills among youth populations.[27] If vocational trainings are effective and focuses on the purpose of existence it will also contributes to better employment outcomes. [28]. To test the connection between training effectiveness and employment outcomes, three major employment outcomes are taken for the study: Employment rates, Job Placement rates and Wage/ salary level.[1]

Structural models were evaluated by using p-value, R2, β and co-linearity testing. Figure 2 depicted the outcome on the predicted routes and represent the intensity of the relationship in β and the overall predictability of the model (R2) . To investigate the strength of the R2, the score of R2 must be above 0.20 which is satisfactory.

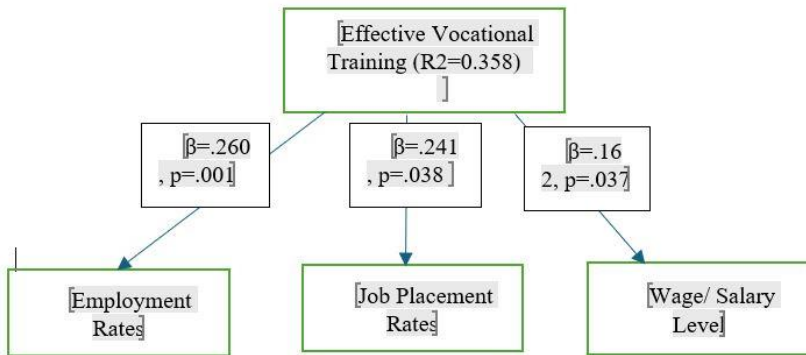


Figure 2: The Structural Model (Author’s own creation)

The result shown in below Table 3 stated that all three relationships (H1- $\beta=.260$; $p=.001$, H2- $\beta=.241$; $p=.038$, H3- $\beta=.162$; $p=.037$) are supported and significant. Therefore, study concludes that Employment rates, Job Placement Rates and Wage/ Salary level are positively influenced by effective vocational Training programs.

Table 3: Statistical analysis of relationships between training effectiveness and Employment outcomes

Path/ Relationship	β	SE (Standard error)	t- estimates	p- values	Result
VT → ER	.260	.091	3.103	.001	Supported

VT → JP	.241	.084	3.106	.038	Supported
VT → WSL	.162	.083	2.185	.037	Supported

Source: Author’s own calculations

H02 There is a significant contribution of quality education in employment outcome.

Education is the essential to gain the success. It helps to avail several opportunities and enables a people to inculcate crucial skills to have wonderful life. [29]Quality education develop new skill set among people to make them eligible for decent employment.[30] The result shown in Table 4 stated that there is a significantly positive relationship between quality education and employment outcomes.

Table 4: Statistical analysis of quality education and employment outcomes

Path/ Relationship	β	SE (Standard error)	t- estimates	p-values	Result
VT → ER	.250	.089	2.195	.035	Supported

Source: Author’s own calculations

5. Conclusion and Discussion

Vocational training is a highly effective instrument to provide effective benefits to individuals and economy.[31] By focusing on job specific skills, it provides better employment outcomes. Firstly, the article attempts to identify key factors which can contributes to the improvement of training effectiveness. Through factor analysis, four major factors trainee characteristics, training atmosphere, environment support and interaction process among parties are excluded. Secondly the study identified a significant relationship between vocational training effectiveness and employment outcomes like employment rates, Job placement and wage / salary level. Lastly, the paper also investigates the relationship between quality education and employment outcomes. The result revealed that quality education is significantly influence the employment outcomes.

6. Future Study

Future studies on vocational training effectiveness and employment outcomes will be crucial. In future there will be a huge change in the need of labor market, and it is very essential to collaborate with industry partners to fulfill the demand of industry. Along with that, there is an essential need to add on latest training models and curriculum which could help the trainees to fit in job. Although this research has just focus on vocational training and employment outcomes. But there is a future scope to conduct

research on contribution of vocational training with gender equality, labor force participation, social mobility etc.

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