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VOCATIONAL EDUCATION AND TRAINING: IS IT REALLY EFFECTIVE?

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ABSTRACT

A need for change in India is skill development. Addressing the Skill Development UNESCO has emphasized that Vocational Education must play a major part in the coherent range of approaches to reach transition of technical education. Today, an effective and successful job design consists of a robust skills infrastructure that can help individuals, communities, and organizations to create and sustain rewarding and fulfilling livelihood opportunities. This paper gives a description on the research conducted on effectiveness of vocational education. The purpose of the study was to find the effectiveness of the Vocational Polytechnic Program run by an institute in Pune. Primary data was collected from conventional polytechnic students and students of the institute in Pune (vocational Program). The data analysis is done in SPSS and results showed that Conventional Polytechnic program is really effective in all aspects. Limitations and scope for future studies are discussed in the paper.

Keywords: Employability, Skill Development, Vocational Training Program, Technical Education

Introduction

The employability of an individual depends on the knowledge, skills, abilities and attitude. According to Gyan (2015)¹, one of the major reasons of increased unemployment in India is 'Theoretical education system' of India. The teaching pedagogy used in most of the educational Institutes in India involves teaching the students the theoretical knowledge. However, the students lack the ability to apply the theoretical knowledge in contemporary and realistic environment. Students also have no exposure to the corporate world and their requirements unless they are employed. It becomes difficult for the students to cope up with industrial requirements.

To bridge this gap between education and corporate requirements, prospective candidates need to be trained. Industries and educational institutions both are involved in training people to make them employment

ready. However, training is both expensive and time-consuming. Vocational Training Institutes are involved in training candidates aspiring for employment. Vocational training Institutes train students for specific career or trade. These Institutes focus on practical applications of the skills learned. The pedagogy involves hands-on-training and experiential learning rather than theory and traditional academic skills. Gyan (2015)¹ suggests that Vocational training centers may be opened by Government so as to reduce the 'gap' between education and industrial requirements. Such vocational training centers may have a tie-up with industries, so that focused training could be delivered to the candidates as per the requirement of the industries.

Literature Review

Unni (2016)² mentioned that India today is one of the fastest growing economies. Further author stated that Indian economy is anticipated

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to rise at 7.2% in 7.7 in the year 2019-20. Author noted that there is a slight shift in the Indian economy from agricultural dominant to a manufacturing and service dominant economy as it is developing into a knowledge economy. The Indian government is positively trying to translate the country into a competitive and high productivity economy. Therefore there is increased demand for skilled employees.

Palit (2009)³ in his working paper states that the Indian economy developed at an 8.8 % rate amid the duration from 2003-04 to 2007-08. The beginning of the financial downfall and developing of repetitive deceleration in the economy in 2008-09 have brought about total national output development lessening to 6.7 per cent. Be that as it may, the economy is relied upon to come back to its high development direction in the medium term. Most experts anticipate that the country's economy would be growing with positively rates in the coming decades and India would rise as one of the biggest economies in the world.

Kapur (2014)⁴ researched on communicating the concept of skill development and focused on how the concept itself was not fully developed in India. The author quotes that "The main challenge before Indian government today is creating new employment avenues for the Indian youth. For both the problems the solution is training and skilling the youth. Today what matters most is labour readiness. A skilled labour is key to improved productivity. With a new push to the manufacturing sector for increased contribution to GDP, in the coming years this sector will create maximum openings. As a result this might trigger openings in services sector also. With all these developments going on, the openings would be mostly in the formal labour market. The formal workforce will consist of the specialised labour. The author concluded that skilling the workforce is the first step towards future growth of the economy.

Chakrabarty (2012)⁵ in work on role of education and skill development states that India being a developing country is expected to raise

at a higher rate and will come out as the second largest economy by 2050. . Since the labour force is changing from agricultural to manufacturing, India realises that the need of the hour is to impart required skills through vocational education and training to engross this added workers and withstand fiscal growth.

Kakade, Suryvanshi and Hindurao (2012)⁶ on their paper on higher education through learn and earn studied the perception of the students towards the programme. In this paper they have analysed the Labour scheme and highlighted that it is the student who subsidizes the university. The student in such schemes makes more contribution than the benefits he receives from the university. The concept of "Learn and Earn" was introduced in two major Universities in Maharashtra. The study showed that the scheme helped in making education inclusive. This scheme created a positive impact on the students, society as well as employers. The authors further calculated the Benefit cost ratio which also resulted in a positive figure.

Padmini. (2012)⁷ in the study of education versus employability argued that as the demand for education increases the systems should be moulded as per the country's requirement for high skilled manpower these requirements must be met. Skilful management is the main driver for country's growth. The main objective of the study was to identify the skill requirements of the young graduates and value creation through the method of delivery, course design, evaluation process and feedback. As per the author the definition of term "employability skills" has changed. Earlier it meant only vocational or job specific in nature now it refers to those skills which will be helpful in acquiring and retaining the job. The paper concludes that in order to avoid skill shortage in a favourable demographic situation in India, the country needs to revise and revamp its educational system.

Haddad et al (1990)⁸ in a report submitted to World-bank mentioned that education is keystone of social and economic

development. With the technological changes and introduction of new scientific methods of boosting production for efficient and effective use of resources the importance of education has increased manifold. The economic crisis from time to time is threatening many countries. With the changes in the world economy, development will be determined and supported by the services, agriculture and knowledge intensive industries.

RESEARCH DESIGN-

Both qualitative and quantitative approaches have been undertaken to meet the objectives of the study. Past studies were reviewed for getting insights into the education systems and consequences of implementing vocational education method. Such literature review is a qualitative approach. Primary data is also collected which is quantitative approach.

Data Collection

Both primary and secondary data are collected in this study. Students of the institute where this VET is followed and who were undergoing On the Job training were the sources of primary data. Primary data is collected through structured questionnaire using interview technique.

Sampling Frame

This study focuses on employees who have either completed or pursuing Polytechnic education and working in manufacturing companies.

Population-

The data is collected from Pune, where around 17000 students are enrolled in this learn and earn programme. Some of these students have successfully passed the programme and continued working in manufacturing companies. In addition to these students there are many other people who have completed their Polytechnic education from traditional education system and work in manufacturing company. Out of these 17000 students those who reside in and around Pune are only 5000.

Sample Unit-

Students who have either completed or pursuing polytechnic education

Sample size calculations

Formula developed by Cochran (1977)⁹ to calculate a sample size is

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} \text{-----(3.1)}$$

Where n_0 is the sample size calculated using formula developed by Cochran (1977)¹ for infinite population size. It can be calculated using following formula-

$$n_0 = \frac{z^2 pq}{e^2}$$

Where

n_0 = sample size

z = critical value of the desired confidence level

p = the estimated proportion of an attribute that is present in the population

q = 1- p and

e = desired level of precision

Since the degree of variability is not known the maximum variability is assumed for this study and thus $p=0.5$ (50% variability). Taking 95% confidence level with ± 5 precision the sample size can be calculated as-

$p=0.5$, $q=1-p=0.5$, $e= 0.05$ $z= 1.96$ (at 95% confidence level)

$$\text{so } n_0 = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

$n_0= 384$

Since the number of employees working in manufacturing industry who either enrolled in Learn and Earn Scheme or completed polytechnic education through traditional education system is not known with certainty the sample size for such employees can be fixed to 384. To round up this odd number researcher has taken 400 samples.

Sampling technique-

Non-probabilistic Purposive sampling technique is used for selecting samples from populations. Students from different levels of the course are selected so as to make sample size a good representative of entire population. Parents or local guardians of only already selected students will be selected as samples. HR managers of organizations of which students were selected will be selected.

Development of Research Instrument

The questionnaire is prepared with consultation with research guide and the experts in the field. Existing relevant literature is also reviewed to prepare a valid questionnaire. Questionnaire includes 9 items. All of these items were rated on 5 point Likert's scale. Where 1 means 'Strongly Disagree' and 5 means 'Strongly Agree'. In addition to these items demographic information of students is also collected through forced choice questions.

RELIABILITY OF THE QUESTIONNAIRE

It is good idea to check the reliability value of any questionnaire before proceeding for data analysis. Therefore reliability of all three

questionnaires is checked by using Cronbach's alpha value.

Table no. 1 Reliability Statistics

Questionnaire	Cronbach's Alpha	N of Items
For students	.873	17

From table it is observed that the Cronbach's alpha value of questionnaire used for students is higher than .7. It indicates that the questionnaire is reliable.

Descriptive analysis of data collected from students/ employees

Employability Subscale

From table no. 2 it is observed that the statement 'I have definitely gained skills required for my professional growth' has received the highest mean (3.29) on 5 point Likert's scale. The lowest mean was received for the statement 'I am now considered as reliable employee' (2.94). From the overall mean of the subscale it can be assumed that in general employability of polytechnic students is higher in their own perception.

Table no.2 Descriptive statistics- Employability Subscale (Students' perspective)

Statement	N	Min	Max	Mean	Std. Deviation
I have definitely gained skills required for my professional growth.	408	2	4	3.29	0.6640
I am now able to work independently	408	1	5	3.36	0.7931
I am now more responsible person at my work and home as well.	408	2	4	3.01	0.6814
I am now considered as reliable employee.	408	1	5	2.94	1.1278
Overall Mean				3.15	

Socio-economic status Subscale

Tableno. 3 Descriptive statistics- Socio-economic status Subscale (Students' perspective)

Statement	N	Min	Max	Mean	Std. Deviation
I live healthy life	408	2	5	3.53	0.897311616
I have friends at my work place and in society and these friends have very good reputation in society.	408	2	5	3.50	0.993835482
I am now able to save some of my income for my future	408	2	4	3.40	0.6902
My income has increased after passing polytechnic course.	408	2	4	3.33	0.7074
I find enough time for my hobbies	408	2	5	3.30	0.875434771
Overall Mean				3.41	

'I live healthy life' is the statement I n socio-economic status subscale which has received highest mean value. The overall mean of the subscale is 3.41. This high value of mean for large sample size indicates that polytechnic students' socio-economic status is positively affected by their education.

Hypotheses formulation

Based on pilot study and literature review the hypotheses framed during proposal of this study are confirmed and considered for further analysis. The hypotheses of this research study are-

H₁- There is significant correlation between vocational training and employability of students.

H₂- There is significant correlation between vocational training and socio-economic status of students.

Hypotheses Testing

This is very important part of data analysis. This analysis will help in framing recommendations for academicians and practitioners as well.

H₁- **There is significant correlation between vocational training and employability of students.**

For this hypothesis Pearson Correlation test was used. The result of the test is given in table no. 4 below.

Table no. 4 -Pearson Correlation- vocational training and employability (Students perception)

		Polytechnic Course	Mean of scale
Polytechnic Course	Pearson Correlation	1	-.359(**)
	Sig. (2-tailed)		.000

	N	408	408
Mean of scale	Pearson Correlation	-.359(**)	1
	Sig. (2-tailed)	.000	
	N	408	408

** Correlation is significant at the 0.01 level (2-tailed).

Table no. 4 shows that there is negative correlation between polytechnic course and employability of the students. And this relationship is significant since the p value of Pearson correlation is less than .01. In data set the Vocational (YIT) course was coded '1' and traditional polytechnic course was coded '2'. Therefore negative correlation indicates that the employability of vocational trainees is higher than traditional polytechnic students. Therefore we accept our alternate hypothesis- 'H1- There is significant correlation between vocational training and employability of students (students'/ employees' own perception)'.
H₂- There is significant correlation between vocational training and socio-economic status of students.

For this hypothesis also Pearson Correlation test is used. The result is shown in following table.

Table no. 5 -Pearson Correlation- Vocational training and socio-economic status of students (students'/ employees' own perception)

		Polytechnic Course	Mean_Socio_Eco_Dev
Polytechnic Course	Pearson Correlation	1	-.465(**)
	Sig. (2-tailed)		.000
	N	408	408
Mean_Socio_Eco_Dev	Pearson Correlation	-.465(**)	1
	Sig. (2-tailed)	.000	
	N	408	408

** Correlation is significant at the 0.01 level (2-tailed).

In data set YIT (Vocational programme) is coded as '1' and traditional polytechnic programme is coded as '2'. Therefore significant ($p < .01$) negative correlation ($r = -.465$) indicates that YIT (Vocational programme) students' socio-economic status is better than their counterparts. Therefore we accept alternate hypothesis- '*H₂- There is significant correlation between vocational training and socio-economic status of students (students'/ employees' own perception)*'

Findings

1. It is observed that the statement 'I have definitely gained skills required for my

professional growth' has received the highest mean (3.29) on 5 point Likert's scale. The lowest mean was received for the statement 'I am now considered as reliable employee' (2.94). From the overall mean of the subscale it can be assumed that in general employability of polytechnic students is higher in their own perception.

2. 'I live healthy life' is the statement in socio-economic status subscale which has received highest mean value. The overall mean of the subscale is 3.41. This high value of mean for large sample size indicates that polytechnic students' socio-

economic status is positively affected by their education.

3. There is significant correlation between vocational training and employability of students (students'/ employees' own perception). In other words as students undergo vocational training their employability also increases significantly and this finding is not just by chance but statistically supported.
4. It was also found that as students complete vocational training program their socio-economic status also enhances significantly.

Conclusion

The findings show that vocational training is really more effective than conventional classroom training. Therefore it highlights the need of experiential learning especially in the technical area such as polytechnic program. The education requires this reform to make the learning more students centric. Further such type of vocational training programs help improve the socio economic status of the employees/ students which otherwise would have been very difficult for candidates who were left behind from the main educational stream. As it is with almost every study, there are limitations to this study as well. First, the study is based on only students' own perception. Normally there is human tendency to give credit to self for all good things. So there are chances that this tendency might have influenced the students' perception about self. Second, the effect of vocational training on finances of the industry were not studied which would have given more insights into the study area. Future studies may include in it in their studies to make it more inclusive.

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