



An Investigation into Effectiveness of Technical and Vocational Education in Pakistan

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ARTICLE DETAILS	ABSTRACT
<p>History <i>Revised format: May 2019</i> <i>Available Online: June 2019</i></p> <hr/> <p>Keywords <i>Course Objectives, Physical Facilities, Curriculum, Assessment & Evaluation, Social Aspects and Academic Facilities.</i></p> <hr/> <p>JEL Classification: A20, P36,</p>	<p>An investigation and validation of effectiveness of technical and vocational education at secondary level for poverty alleviation is need of the day. Four sub-components such as locale, age, education and socio economic status have been considered important in determining the effectiveness of technical & vocational education at secondary level for poverty alleviation. Out of 815 pass outs in Matric technology and vocational education during 2013, 2014 and 2015, the parents of 494 were selected through proportionate stratified random sampling technique for study. The study established that there is a significant positive strong relationship between parents' perception towards effectiveness of technical & vocational education and poverty alleviation. The curriculum, assessment & evaluation and social aspects significantly and positively predicted the outcome variable poverty alleviation. The study is useful for policy makers, professionals, researchers and practitioners.</p>

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1. Introduction

First time the "poverty line" was introduced by Mollie Orshansky in 1963 based upon family expenses for three times adequate basic needs i.e. food, health facility, shelter and safety (Bradshaw, 2006). It is significant to know that basic needs may be dissimilar from person to person according to social definition and past experience. World Bank (2010) states that person is a poor if he/she cannot meet daily 2350 calories intake or has income lower than 2 US \$ a day. Thus, a significant majority of the people in world is living in low income (Miankhalil, 2014). There are 29.19 % population with income less than 2 US \$ per day in Pakistan (Haroon, 2017).

Human Capital Approach says that education has key role in poverty reduction. This emphasizes direct relationship between education and earnings. Second approach says that education is actually a basic need and it is important to provide the masses equally especially in rural areas (Jandhyala, 2003). Ojo & Vincent (2000) view that education has multi-dimensional effects on man. It is not only a visa to victory, a permit to the mysterious and a way to great success. Education enhances the ability of empowerment as well as gives purification, civilized behaviors, enlightenment, and confidence. Servaas (2008) explains that with education a person knows his inner as well as outside environment. Education is the base for national growth and poverty alleviation.

All over the world there is a sufficient need of education for skill and vocation. Technical and Vocational Education (TVE) is one of the considerable justifications of better earning of people having this form of education than others. The individuals who have technical or vocational education get appropriate employment chances than the people who have general education. Therefore, TVE reduces disparity and poverty by improving the skills as well as efficiency of the whole population (Tarabini, 2010; Olaitan, 2012). TVE enhances the skills, information and approaches which are compulsory for employment (Pauline, 2008). TVE is that part of education that enhance the provable skills of individuals which ultimately pays back in the shape of better economy and well being (Idris and Oseni, 2011).

Pakistan is a developing country with sufficient set up of industry facing the problem of scarcity of skilled and semi-skilled labor. It is therefore, important to pay more attention to provide TVE from schooling. (Khwaja, 2009). Technical education & vocational training in Pakistan is structured at federal level through NAVTTC as well as at provincial level through TEVTA (Tushar 2013). Punjab Vocational Training Council and certain industries through workshops are providing TVE in the province.

2. Literature Review

According to Universal Declaration of Human Rights (UDHR) 1948, as resolution 217 A (III), everyone has the right to get basic facilities of life not for him alone but also for his family and dependents. It is fact that we need to access safe food and water, clothing, shelter, and basic medical care in order to live well, indeed, in order to live (Thomas, 2007). Poverty has been admitted as massive, systematic and continuous violation of human rights. The poor is in fact injured party and it is duty of government, the international community and ultimately each citizen to compensate. In this regard, a strong interest should be established in alleviating poverty on urgent basis (Sane, 2003).

Now the question arises what is poverty? In economic context, poverty is a situation in which a person has fewer resources and consequently less welfare and joys to live on. Poverty is also defined as a situation in which command over resources falls below a certain level (Robert & Felicity, 2003). Firstly, poverty is considered in terms of deprivation in some materials of wellbeing which can usually be assessed in terms of money (Edward, 2008). Secondly, poverty is considered not only deprivation of basic needs but also secondary needs as health, literacy, communication, no threat from future, having job, availability of pure water, rights of property and freedom (Cristovam et al. 2006). Thirdly, poverty is subjective and has physical as well as psychological aspects that affect its victims to hunger, insecurity, violence, crime, discrimination, political repression and victimization (Aliyu & Abu, 2013). According to World Bank benchmark, a poor person is one who lives on \$2 or below a day. Whereas 2735 million people in the world out of 6150 million are living on less than that. About 850 million people are under-nourished, over 1000 million have no access to pure water and 2600 million lack access to basic sanitation. In the world 2000 million people have no medical facility, 1000 million are shelter less and 2000 million are living without electricity (Pogge, 2007).

Haroon (2017) says that poverty is prevalent in Pakistan and is mostly a rural observable fact. According to Asian Development Bank (2017) poverty rate in Pakistan is 29.19 besides 40 percent of the urban population have to live in slum areas (Haroon, 2017).

Nations are built on the prosperity of the local people whereas prosperous factors are brought through education. It is worldwide admitted fact that education helps the people in research, better financial system, maintaining a living, adopting changing trends in technology (UNDP, 2010). According to Yusuf (2008) education, in every aspect is one of basic elements which can assist to achieve economic development by investing in human capital. Omoniyi (2013) and Aina (2008) state that education is a factor which can uproot poverty. Deraniyagal (2005) and Assaad and Rouchdy (1999) have the view that education can significantly contribute technological ability & changes in industry. Education can contribute in many spheres even in peasant farming (Orazem, Glewe & Patinos, 2007). Educated people get more wages in the labour market which is the result of their higher productivity. In middle-income countries, it has been observed that they developed markets for educated labour through education (Ferreira & Litchfield, 2012).

Omoniyi (2013) states that education surely makes the society well off but if the nation is provided TVE, it can boost the society more and bring all the changes which the developed countries have. TVE has very important role

in improving the capacity of production which is essential part of human resource development (Akoojee, 2005 & Nwankwo, 2013).

The need of a country lies in qualitative and skilled workers (Lamsal, 2012). For this purpose, almost all the countries are trying to get highly technical and vocational skilled persons in competitive environment to cope with employability, social inclusion and poverty reduction. TVE provides not only knowledge but also practical expertise and behavior for the better performance in the labour market (Keith, 2006) and William 2002). Okon, Eminue and Leema (2016) depict that sufficient equipment and tools; material and text books as well as well qualified and experienced teachers are the basics for qualitative skills training. Shannon, Twale and Moor (2003) say that consistency, unity and management are important for effective TVE system.

Goran (2010); Audu, Kamin, & Balash (2013) state that practical education can make men of nation productive and self-reliant. Cedefop (2009) further says that effects of TVE on social inclusion are also uncertain due to the insufficient reforms. Hillage and Pollard (2012) have the view that effectiveness of TVE is associated with competency of teachers in the context of their theoretical knowledge, practical and pedagogical skills and having knowledge with new technologies.

Anil (2008) gives his opinion that an institution works effectively and efficiently to produce trained and qualified persons. But there are so many factors which may affect directly or indirectly the effectiveness of an institution (Sangeeta, 2007). Administration, infrastructure, teaching effectiveness, students, interaction with industry and society and curricular and co-curricular activities. Research and development are some of the important factors. Effectiveness of a technical institution, management and administration play a great role (Benavot, 2010). Technical institution must have building, equipped lab, library, canteen, hostels, workshops, halls and playground (Beynon, Hallak & Postlethwaite, 2007).

Tirmazi (2006) has the view that TVE is the best source to train the people, enhance economy and ultimately alleviate poverty. Pakistan also has accepted this reality and established an effective structure of TVE from secondary to higher level (Mustafa, Abbas & Saeed, 2005). There are 327 institutions of TVE in Pakistan at national level and under control of NVTTC. While in Punjab, 200457 students are enrolled in 402 institutions under control of TEVTA. This study focused on the perception of parents of matric technology and vocational students at secondary level from 2013 to 2015 in sixty institutions, 494 out of 815 parents of the students matric vocational technology were selected. (http://www.tevta.gop.pk/img/successBygrapg/tevta_institute-popup.png). The major objective of the study was to investigate the perception of parents regarding the effectiveness of technical and vocational education at secondary level as a tool for poverty alleviation in Pakistan.

3. Research Questions

The study addressed core questions related to TVE effectiveness in poverty alleviation. Is there any significant difference between urban and rural parents' regarding course objectives, physical facilities, academic facilities, curriculum, assessment & evaluation and social factors of technical & vocational education as a tool for poverty alleviation; is there any significant difference among age groups of parents regarding course objectives, physical facilities, academic facilities, curriculum, assessment & evaluation and social factors of technical & vocational education as a tool for poverty alleviation; is there any significant difference among academic qualification groups of parents regarding course objectives, physical facilities, academic facilities, curriculum, assessment & evaluation and social factors of technical & vocational education as a tool for poverty alleviation; and is there any significant impact of course objectives, physical facilities, academic facilities, curriculum, assessment & evaluation and social factors of technical & vocational education on poverty alleviation scale as predicted by parents?

4. Research Methodology

This study was descriptive in nature. A questionnaire as a research instrument was developed to find out of the parents' perception about effectiveness of technical & vocational education as a tool for poverty alleviation in Pakistan.

4.1 Instrumentation

The questionnaire had three parts; demographic detail, effectiveness of TVE at secondary level and the opinions about poverty alleviation. The questionnaire was also translated in Urdu to make it more respondent friendly. According to guidelines of experts, the instruments were modified where necessary. Finally questionnaires on five

points Likert scale were launched in the field. The response options were Strongly Agreed (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD) numbered 5, 4, 3, 2, and 1 respectively for quantifying the responses. The Chronbach Alpha for parents' scale was 0.917 higher than 0.70. It indicates that the data set was consistent and reliable at acceptable level to proceed further.

4.2 Population of the Study

Punjab Province was selected as population of the study being a well-populated Province and approachable for the researcher 815 parents of all pass out students of technical and vocational education at secondary level in 2013, 2014 and 2015 from all over the Punjab province are population of the study. Source:<http://www.tevta.gop.pk/institutes.php>

4.3 Sample Design

Stratified random sampling technique was adopted to select a true representative sample from large and disperse population Strata. In the first step, thirty-three districts of Punjab were selected in which matric technical & vocational education is being offered. TEVTA has divided Punjab into three zones, namely central zone with 11 districts; Gujranwala, Gujrat, Hafizabad, Kasur, Lahore, Mandi Baha-ud-Din, Nanakana Sahib, Narowal, Okara, Sahiwal and Sheikhpura; North zone with 11 districts; Attock, Bhakkar, Chakwal, Chiniot, Jhang, Jhelum, Khushab, Mianwali, Rawalpindi, Sargodha and T.T Singh; South zone with 11 following districts; Bahawalnagar, Bahawalpur, D.G Khan, Khanewal, Layyah, Lodhran, Multan, Muzaffargarh, R.Y. Khan, Rajanpur and Vehari. Source:<http://www.tevta.gop.pk/institutes.php>

Proportionate stratified random sampling technique was used to select the parents of matric technical and vocational education from each district. From each district at least 60% parents of passed out students were selected to provide representation of each district. In third stage the parents of passed out students from all institutions of all three zones and districts were selected randomly and proportionally. In this way, the data from 494 parents instead 489 were received out of 815 total parents of passed out students in the years 2013-15 from all districts in all three zones.

Table 1: Breakup of Parents by Locale

Demographic Information															
Statistics	Locale			Age				Education				SES			
	Rural	Urban	Total	30-35	36-45	>46	Total	Intermediate	Graduation	Masters	Total	Low class	Medium class	High class	Total
Frequency	150	344	494	157	198	139	494	95	224	175	494	261	193	39	494
Percent	30.4	69.6	100	31.8	40.1	28.1	100	19.2	45.3	35.4	100	52.8	39.1	7.9	100

Table 1 reveals that total sampled parents are 494. Further it shows that 150 (30.4%) were rural parents and 344 (69.6%) urban parents. There were 157 (31.8%) parents having age 30-35 years, 198 (40.1%) having age 36-45 whereas 139 (28.1%) parents having age 46 years or above. Intermediate, graduation and masters parents were in the ratio of 95 (19.2%), 224 (45.3%) and 175 (35.4%). Total 261 (52.8%) from low class, 193 (39.1%) from medium class and 39 (7.9%) from high class were selected randomly as reflected above.

4.4 Analysis and Interpretation of Data

The statistical design for data analysis was prepared according to the research questions of the study. Quantitative analysis was made using SPSS version 22. Descriptive analysis was carried out; one-sample t test, Pearson test and linear regression test were used in inferential statistical analysis.

4.4.1 One sample t-test

(H1): There is significant difference between sample mean scores on the 'poverty alleviation' factor from parents and cut-point score.

(H0): There is no significant difference between sample mean scores on the 'poverty alleviation' factor from parents and cut-point score.

Table 2

	N	M(S.D)	t-value	df	'p'
Poverty Alleviation	494	96.21 (18.31)	24.15	493	0.000

*Population cut point 88

The t-value = 24.15; p-value is 0.000, which is less than the significance level of 0.05. The null hypothesis is rejected and alternative is accepted. It is concluded that parents are satisfied on 'poverty alleviation' through TVE.

Table 3: Pearson product moment correlation coefficient between parents' perception towards effectiveness of technical & vocational education at secondary level and Poverty alleviation

Variable	'r'	'p'
Effectiveness --- Poverty Alleviation	.733	.000

Table 3 shows the relationship between parents' perception towards effectiveness of technical & vocational education and poverty alleviation. The results revealed that there is significant positive strong relationship exists between students' perception towards effectiveness of technical & vocational education and poverty alleviation ($r = .733, p < .05$).

Table 4: Linear regression for the effect of technical & vocational education factors on poverty alleviation as predicted by parents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.767a	.588	.584	6.654

a. Predictors: (Constant), social aspects, curriculum, assessment and evaluation, physical layout, academic facilities

F (5,493) = 139.559, $p < .001$

Table 5

Model		Unstandardized Coefficients		Standardized Coefficients	t	'p'
		B	Std. Error	Beta		
1	(Constant)	3.037	4.045		.751	.453
	Physical Layout	.151	.078	.088	1.925	.055
	Academic Facilities	.038	.085	-.021	.441	.660
	Curriculum	.404	.056	.296	7.233	.000
	Assessment and Evaluation	.377	.120	.118	3.131	.002
	Social Aspects	.545	.050	.432	10.955	.000

a. Dependent Variable: Poverty Alleviation

In Table 4, the linear regression displays the strength of relationship between factors of technical & vocational education and the poverty alleviation of parents with adjusted $R^2 = .584$. This implies that course objectives, physical facilities, academic facilities, curriculum, assessment and evaluation and social aspects accounted for 58.4% of variation in parents' poverty alleviation. The model is good fit and significant.

The β value = .404, $p = .000$) indicates that curriculum factor is significant predictor which has a positive association with the poverty alleviation. This means that an increase in one unit of parents' curriculum will increase their poverty alleviation by 0.404 units as indicated by unstandardized coefficient B. It is concluded that curriculum has a positive significant effect on the poverty alleviation as perceived by parents.

The β value = 0.377, $p = .000$) indicates that assessment and evaluation factor is significant predictor which has a positive association with the poverty alleviation. This means that an increase in one unit of parents' assessment and evaluation will increase their poverty alleviation by 0.377 units as indicated by unstandardized coefficient B. It is concluded that assessment and evaluation has a positive significant effect on the poverty alleviation as perceived by parents.

The β value = 0.545, $p = .000$) indicates that social aspects factor is significant predictor which has a positive association with the poverty alleviation. This means that an increase in one unit of parents' social aspects will increase their poverty alleviation by 0.545 units as indicated by unstandardized coefficient B. It is concluded that social aspects has a positive significant effect on the poverty alleviation of parents.

Therefore, the results revealed that curriculum, assessment and evaluation and social aspects significantly and positively predict the outcome variable poverty alleviation for effectiveness of technical & vocational education at secondary level.

5. Findings and Discussion

The results of 'Pearson' product moment correlation coefficient between parents' perception towards effectiveness of technical & vocational education and poverty alleviation revealed that there is a significant positive strong relationship exists between parents' perception towards effectiveness of technical & vocational education and poverty alleviation. The rural parents' perceptions are higher than urban parents on academic facilities, curriculum, assessment & evaluation and social aspects factors. However, there was found no difference of locale on physical facilities factor; according to parents' perceptions TVE is effective in poverty alleviation without age difference. There is no age difference was found in perceptions on physical layout, academic facilities, curriculum, assessment & evaluation and social aspects factors; the perception of the parents who had higher qualification is more favorable than the parents having low qualification on academic facilities. However, no academic qualification difference was found on physical layout, curriculum, assessment & evaluation and social aspects; according to parents' perceptions TVE is effective in poverty alleviation without difference in socio economic status factor. There was found no socio economic difference in perceptions on physical layout, academic facilities, curriculum, assessment & evaluation and social aspects. It was concluded that there is significant positive strong relationship exists between parents' perception towards effectiveness of technical & vocational education and poverty alleviation. The curriculum, assessment & evaluation and social aspects are significantly and positively predicted the outcome variables poverty alleviation for effectiveness of technical & vocational education at secondary level.

6. Recommendations

Based on the findings, it is recommended that the parents must be vigilant about the academic performance of their children; the parent- teacher meeting must be arranged on weekly or monthly basis; the parents must visit the institutions frequently; the parents should inform to the school management about the lack of physical and academic facilities; parents must have awareness about the academic and skills oriented performance of their children; parents may also meet with employers' to know the success of their children at work place.

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