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Policy Paper: Technical and Vocational Teacher Education for Promoting Entrepreneurship among Students

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Abstract
This paper aims to determine entrepreneurial potential among technical education students and to develop a policy for technical and vocational teacher education for promoting entrepreneurship. Qualitative and quantitative approaches have been utilized in this research paper. Theory of Planned Behavior will be help full for proceeding quantitative research. Survey will be conducted among technical education students for determining entrepreneurial potential among students. It will also observe the impact of technical education on entrepreneurial mind set development. Qualitative approach will be utilized to analyze scheme of studies of technical and vocational education training institutes. Policy will also be analyzed. On the basis of analysis we give recommendations. This study will be help full for promoting entrepreneurial mind set among the youth of the region. It will develop job creating opportunities for socio-economic development of the region. It will also explore the horizons for future research how to develop entrepreneurial technical and vocational curriculum. This study will be help full for policy makers, curriculum developers, future planners and institutions
Keywords: Entrepreneurship Education; Technical and Vocational Education; pedagogical skills;

Introduction

During last few years a number of students have taken technical skills from technical and vocational institutes but they were unable to seek jobs in the market due to shortage of jobs. Unemployment is major problem for the youth of developing countries. Self employment in small business is one of the solutions to resolve the problem of unemployment among youth of the nation (Nelson.1986). In this context entrepreneurship education can play its role by developing entrepreneurial mind set of the youth of the region. This will enhance small business that will provide more ob opportunities for the rest of the nation. . Therefore it is necessary to provide entrepreneurship training to the graduates of technical education students parallel to their technical skill courses. When technical and vocational graduates will have entrepreneurial mind set they will look for job creating opportunities in the market. They will endeavor to become an entrepreneur. Entrepreneurship education cannot be taught in technical and vocational education programs until we train the VET teacher for entrepreneurship education.

This paper aims to determine entrepreneurial potential among technical and vocational education student and give policy recommendations for the induction of entrepreneurship education in VET through teacher education.

Methodology

This is a mix type of research quantitative and qualitative both approaches have been utilized. Quantitative approach was utilized for conducting Entrepreneurial Intention by using Entrepreneurial Intention Questionnaire with due permission of the EIQ authors. The questionnaire was adapted from previously existing entrepreneurial intentions questionnaires (EIQ). The questionnaires were already tested by their authors previously in their research study. Their research can provide information about the validation of the questionnaire (Linan, F., 2006) The data were collected with a EIQ among 150 technical education student and 150 business students. Correlation and t-test statistic was used for analysis. SPSS 16 was used for data analysis.

Qualitative approach was utilized for Education Policy analysis and scheme of studies analysis of technical education training institutes. In this context department of Technology Education of the University of the Punjab was taken as case study for its scheme of study analysis.

Literature Review

According to Ajzen's theory of planned behavior (1991) intentions are elucidated by:

1. An individual's attitude towards the behavior
2. The subjective norms
3. And the individual's perception towards behavioral control

Intentions are conjured up as instantaneous antecedents of actual behavior (Ajzen, 1991). Also, building an attitude towards a certain thing which drives a specific behavior must accompany by a conviction; that it will

result in definite outcomes (Fishbein and Ajzen, 1975; Boyd and Vozikis, 1994). An Individual's attitude towards the behavior is of mere importance. It is an entrepreneur's attitude towards the venture which will define the boundaries of his success. Social factors from the external environment have also been given much weight by Ajzen. He included 'subjective norms' another factor which drives intentions of an individual towards entrepreneurship. These are the perceived social values which creates a social force to engage or restrict oneself in a behavior. Social forces also influence an individual's tendency to act entrepreneurially. These social pressures also play an important part in motivating or de-motivating an individual to entrepreneurship, hence constructing or destructing the intention. On the other hand, an individual's perception towards behavioral control also demarcates the boundaries of intentions. Behavioral control is a function of an individual's attitude towards a behavior and the subjective norms towards that behavior, which is the center of attention in expecting the actual behavior.

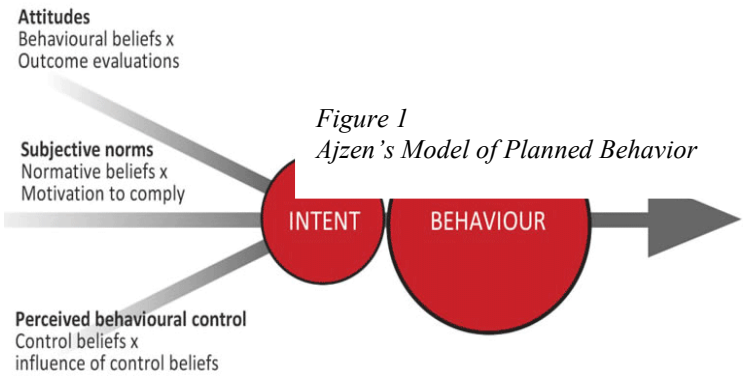

Figure 1
Ajzen's Model of Planned Behavior

Ajzen's model has been given wide scale acceptance by research scholars due to its wide scale applicability in determining entrepreneurial intentions. It gives holistic, contemporary and relevant circumstantial insights in knowing the right factors which influence entrepreneurial intentions. It accounts for socio-economic factors which can influence entrepreneurial activity. As discussed by Ajzen, Behavioral beliefs tie the behavior of curiosity to predictable results. It is also the subjective likelihood that the behavior will result in a convinced outcome. It was assumed that subjected values of such outcomes determine an attitude towards a behavior; which is the level to which presentation of a behavior is positively or negatively valued.

Next comes the 'Normative Beliefs', which are the perceived behavioral anticipations of closely related family members or groups (e.g. spouse, friends, doctor, collogues etc); which builds a social pressure called as 'Subjective Norms'.
Control beliefs are related with the apparent presence of factors that may make easy or obstruct act of a behavior. According to Ajzen, control beliefs if combined with the perceived power of each control factor conclude the established perceived behavioral control.
All of the above factors play their individual role in forming up an individual's intentions which certainly transforms into entrepreneurial behavior.

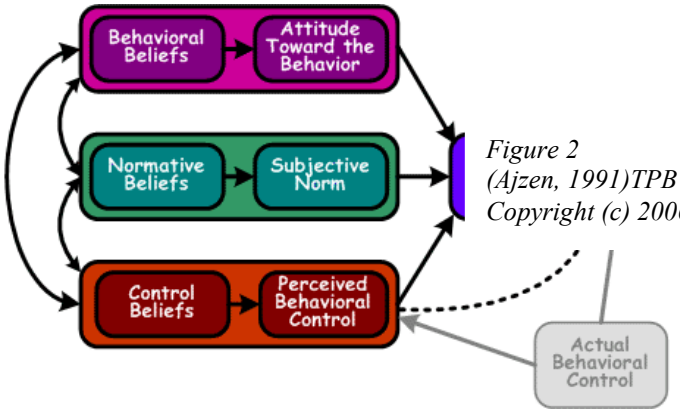

Figure 2
(Ajzen, 1991)TPB Diagram
Copyright (c) 2006 Icek Ajzen

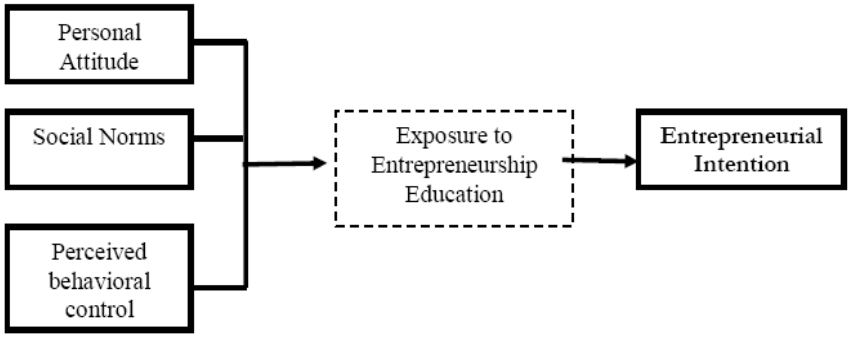

Figure 3: Conceptual Frame work
Developed by Otman aneizi,

So the hypotheses developed from the literature review are the following;
Ho1*. There is no relationship between attitude toward behavior and the entrepreneurship inclination among technical education students*

Ho2. *There is no relationship between perceived behavior control and intention toward entrepreneurship among technical education students.*

Ho3. *There is no relationship between subjective norms and intention toward entrepreneurship among technical education students.*

Ho4. There is no difference between technical education students and business education student's intentions towards entrepreneurship.

Reliability Analysis
Cronabch alpha gave the following result of reliability analysis;

Cronbach's Alpha	**No of Items**
.79	24

Table 1: Reliability Statistics

Here in the Table No. 2 is given the Demographics of the students.

Discipline	**Frequency**	**Percentage**
Technical education	150	50
Business education	150	50
Total	300	100

Correlations Analysis
A correlation analysis was conducted to determine the relationship between Att_Ent, Pro_p, Risk_tkP, Ent_Edu and Family S. The relationship strength was derived from the Pearson Product-moment correlation coefficient when the significance level is p<.01 and p<0.05. Table3. present the result from students sample which shows positive and significant relationship between attitude toward behavior and the intention toward entrepreneurship (r=.62, p< .01). The result does not reject hypothesis 1 that there is a relationship between the attitude toward behavior and the intention toward entrepreneurship where as the attitude toward the behavior related to entrepreneurship increases; it will also increase the intention toward entrepreneurship. Those who have favorable attitudes being entrepreneurs tend to show a higher intention to be involved in entrepreneurship after graduating.

Table 3: Descriptive Statistics and Bivariate Correlations

	Atti_Ent	Pro_p	Risk_tak P	Ent_Edu	Sub_N	percv_BC	Ent_Int
Att_Ent	**1**						
Pro_p	**.31(**)**	**1**					
Risk_tkP	.37(**)	.52(**)	1				
Ent_Edu	.62	.19(*)	.34(**)	1			
Sub_N	.35(**)	.45(*)	.61	.23	1		
prcv_BC	.79(**)	.68(**)	.41(**)	.72	.21(**)	1	
Ent_Int	.62(**)	.13(*)	.32(**)	.71	.59	.64(**)	1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The subjective norms also shows a positive and significant relationship with the intention toward entrepreneurship, (r=.59, p <.05), whereby as the perception of family and friends approve of their decision to become entrepreneur increases, they will tend to show a higher intention to be involved in entrepreneurship after graduating.

The analysis shows that there is a positive and significant relationship between the perceived behavior control and the intention toward entrepreneurship (r=.79, p<0.01). This infers that as the perception of control for developing a new business increase, the intention to be involved in entrepreneurship after graduating tends to be higher. This finding does not reject hypothesis 3. It is found that the strength of the relationship is quite high (r=.64) which suggest a strong correlation between the sense of being able to control the related behavior in entrepreneurship to the intention of actually being involved in entrepreneurship. Correlation between entrepreneurial intentions and participation in entrepreneurship education shows that there is a strong correlation

(r=.71).

The Intention toward Entrepreneurship between Business and Technical Education students

Table 4.1 shows result from the Levene's test which enables the understanding to be made that there is a difference in the intention toward entrepreneurship between the technical education students and business education students. The mean score of Ent_Int from the business education students sample is 3.42 which is higher compared to that for technical education Students sample which is 1.92

Table4: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means	
	F	Sig.	t	Sig. (2-tailed)
Equal variance assumed	4.62	.03	-.21	.73
Equal variance not assumed	2.33	.41	-1.56	.05

Table4.1: Independent Samples Test

Students	N	Mean	St. Dev
Technical	150	1.92	.48
Business	150	3.42	.34

The study shows that participation in entrepreneurship education has positive impact on entrepreneurial intentions of the students therefore it is needed to introduce entrepreneurial courses in technical education programs but before introduction of entrepreneurial courses in technical education it is necessary to train the teachers for entrepreneurship education. In this context a case study from Punjab university department of Technology education is given;

A Case Study; Department of Technology Education, University of the Punjab

The department of Technology Education was established with basic aims to produce technical teachers for participation in the efforts towards the industrial revolution in the country by educating the young generation in Technology. The department also keeps in view that its graduates would also be required to play the role of educational leadeeship as administrators, planners, technical advisors and teaching in the institutions of higher learning. Further, the graduates of the department are also serving as production managers, technical supervisors & in the other Managerial capapities in Govt. sector and semi Govt. Institutions & in the Private sector of their technological skills & insight.

The department aims at preparing the students for teaching and other leadership positions in the field of Technology education. The students are encouraged to participate in the class discussions, make use of library and apply their initiative in discovering solutions of the problem. The students are discourged to follow the beaten track; they are encouraged to develop an attitude for problem solving manner as the programme could meet all these requirements.

Course offering

The two year Technology education degree programe is run under smester system. The cademic session consists of four smesters of eighteen months duration each. Two each midterm and final smester examination are held in eac course.

Following are the courses taught during two years period.

1- Engineering graphics
2- Wood technology
3- Metal technology
4- Applied Electricity
5- General electronics
6- Computer in Technology Education
7- Design and Experimental Crafts
8- Production technology I
9- Production technology II
10- Islamic Culture and Ideology of Pakistan
11- Islamic System of Education
12- Educational Psychology

13- Philosphy of Education
14- Educational measurement and assessment
15- Research methods in Education
16- Educational Administrations and Supervision
17- Instructional technology
18- Curriculum Development
19- Organization management of technology Education Programme
20- Student teaching and Observation
21- Master's research project/ Internship/ Practicum in technology Education
22- Printing and graphic arts
23- 25 Area of specialization

Area of specialization

1- ***Engineering Graphics***
2- ***Wood technology***
3- ***Metal technology***
4- ***Electricity***
5- ***Electronics***
6- ***Industrial Management***
7- ***Computer technology***

A view of Technical education policies of Pakistan has also been given below

Quaid-e-Azam Mohammad Ali Jinnah had visualized the dream of education for Pakistan. His message to the Pakistan Educational Conference (1947) reads. ***"You know that the importance of education and the right type of education cannot be over emphasized. Under foreign rule for over a century sufficient attention has not been paid to the education of our people. There is immediate and urgent need for giving scientific and technical education to our people in order to develop science, commence, and trade and particularly well planned industries. We should not forget that we have to compete with the world, which is moving very fast in this direction,"***
(Govt. Pak, 1947)

EDUCATION POLICY 1998-2010 *. Besides other important aspects of education sector this education policy also emphasized the need for incorporating the technical education in the standard education stream. Major decision of the policy are highlights as under:-*

Objectives

To develop opportunities for TVE in the country for producing trained manpower, commensurate with the needs of industry and economic development.
To improve the quality of technical education to enhance employability of TVE graduates by moving from a static supply based system to a demand driven system.
To design the programme of technical and vocation education in such a way that dual purpose of self-employment and availability of trained manpower for industry is served simultaneously.
To develop among the students technical skills and desirable work habits.
To develop an evaluation system this emphasized relevant skills and project orientation.
To promote institution-industry linkage to enhance relevance of training to the requirements of the job market.
To impart employable skills to reduce unemployment among educated youth.
http://viewstonews.com/index.php/technical-education-in-pakistan/uncategorized

Discussion and Conclusion

It was observed that there is lack of entrepreneurship policy. Therefore it is highly needed to develop such a policy at national for introduction entrepreneurship education in technical and vocational education. There are a certain number of examples in the world in which entrepreneurship is taught in technical education teacher training programmes.

According to European Commission report in Cyprus Institute of pedagogical skills is responsible for conducting work shops and seminars on how to teach entrepreneurship in vocational education. Moreover training of teachers for entrepreneurship education teaching in vocational education is necessary.

There is a need to develop such a teacher training pedagogy in the field of technical and vocational teacher training education that impart entrepreneurship among students but unfortunately technical education teachers are unaware o f the concept entrepreneurship education. Seminar, workshops and symposium should be conducted for creating awareness among teachers regarding aims, objectives, curriculum development, pedagogical skills and assessment methodology of entrepreneurship teaching in VET. At initial level of VET teacher training introduction of entrepreneurship is necessary but in teacher training courses yet this concept has not been introduced.

On job training is also crucial for teachers to promote entrepreneurial mind stet among students. For teaching students how to think an innovative idea, developing a project and executing it. In Austria Summer University workshop is organized for teaching entrepreneurship education to educators. In this sense a number of stake holders play their role for promoting such type of activities for example Ministry for Education, Arts and Culture.

These training are aimed at to promote entrepreneurship education in teachers by developing certain types of skills like;

Teaching Methodology;
Pragmatic approach should be utilizing for teaching entrepreneurship. In this way students learn by doing. They learn by interacting with society and societal problems. John Dewey is best known for the propagation of pragmatic philosophy of teaching in education. Teacher must learn that for teaching entrepreneurship in technical programs demonstration method is best approach. Teacher act as a moderator and guide in this approach and students learn by doing things with their experiences. Students learn from their mistake by trial and error method. Teacher should be teaches philosophy of entrepreneurship that is based upon Pragmatism, which stresses the need to test ideas by acting on them. Among its founders were William James (1859 - 1952) and John Dewey (1859 - 1952). Through experience students know that change has taken place. The best and true source of knowledge for student is experience and observation. That is tentative and subject to revision. For teachers to teach is that change is a constant, ongoing, and dynamic process.

Teachers should be trained for teaching entrepreneurship in VET concept of reality is the sum total of what people experience. For an entrepreneurial teaching what can not be experienced can not be real. Whatever is function able, workable and practicable is real. The real should be that which makes function. The entrepreneurial teaching would describe human beings as biological, social and psychological organism in which those functions are continuously interacting. The truth is the practical efficacy of an idea. The truth is that which works best. A value of truth by its practical utility, the core of pragmatic entrepreneurship philosophy is flux and change.

When we talk about values of entrepreneurial teaching these are not permanent values. Values are relative, workable and function able. Human beings make or unmake entrepreneurial values by them selves. Teacher should know that value should not be imposed by higher authority. These are created as a result of social human interaction. Entrepreneurial moral codes are best derived from the needs and aspirations of individuals and social groups.

In stating the purpose of entrepreneurship education, it would stress the need for experiences as a democratic social process. Influence of modern science/industrialization/business management. Less emphasis on technical subjects. Text books should be supplemented with direct or various experiences. Following scheme of studies should be introduced in the scheme of studies of VET for teacher;

1- Marketing
2- Entrepreneurship
3- Leadership and Management
4- Small Business Management
5- Teaching Entrepreneurship in VET
6- Industrial Management
7- Human resource management

Teaching Methodology should be Student-centered, problem solving, project Method role playing, discussion and active student participation. The teacher sees himself/herself mainly as motivating influence and facilitator Students are expected and exhibit curiosity and participate actively.

Communication Skills;
Students are teaching to communicate freely and put forward their innovative ideas efficiently. Students learn how to convey messages without communication gap. They know the utilization of different communication channels. They learn negotiating skills and interacting with different groups. The most effective way to teach students such skill is by training of teacher through workshops and refresher courses.

This study will be help full for policy makers, curriculum developers, future planners and institutions to promot entrepreneurial mind set among the youth of the region. It will develop job creating opportunities for socio-economic development of the region. This study has also explores the horizons for future research how to develop entrepreneurial technical and vocational education curriculum.

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