Analysis of Gender Difference and Relationship between Entrepreneurial Learning and Entrepreneurial intention on Higher Vocational Colleges Students

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Abstract

The objectives were to analyze the gender difference and the relationship between on entrepreneurial learning and entrepreneurial intention from the perspective of higher vocational colleges. This research based on the survey of 428 Vocational College Students in Shaanxi Province, China, studied the gender differences of students' entrepreneurial studying and entrepreneurial intention. The data was analyzed by using t-test and Structural Equation Model. The results showed that three dimensions of entrepreneurial studying had significant effect on entrepreneurial intention. Gender difference had significant different on the entrepreneurial experiential learning and practical learning of higher vocational college students. In additions, male was significantly higher level than female in entrepreneurial experiential learning and entrepreneurial practical learning. In terms of entrepreneurial intention, male was significantly higher level than female. Based on this result, higher vocational colleges should pay attention to gender differences, improve education model, establish a complete entrepreneurial learning system, and base on the needs of economic development, pay attention to entrepreneurial practice and pay attention to female entrepreneurial education.

Keywords: vocational colleges, gender difference, entrepreneurial learning, entrepreneurial intention

Introduction

The employment and Entrepreneurship of college students has always been the focus of social concern. At the same time, the slowdown of China's economic growth also makes the employment situation of college students extremely severe, and entrepreneurship is a very important way of College Students' employment. Entrepreneurs were all developed by potential entrepreneurs. There were 2,956 colleges and universities, including 1,178 vocational colleges in China (Directory of Chinese Higher Schools of the Ministry of Education, 2019). Higher vocational

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education is an important part of higher education in China. According to the statistics of the National Bureau of Statistics, in 1995, the proportion of female students in Chinese universities was only 35.4 percent,

while in 2009, female students accounted for 50.48 percent. For the first time, the number of female college students exceeded that of male students. By 2012, the proportion of female students has increased to 51.35 percent. In 2018, female students accounted for 52 percent and male accounted for 48 percent. In 2014, the proportion of female students in Colleges and universities was 52.1 percent and 51.6 percent respectively. With the increasing proportion of female students in college students, more and more attention has been paid to the differences between male and female students in entrepreneurship.

Whether there are differences between male and female college students in entrepreneurship in which differences exist and the reasons for the differences are the important education research. Although the research on the impact of College Students' gender on entrepreneurship is limited, especially for higher vocational college students. However, the relationship between gender and entrepreneurship has been focused from different perspectives. John Holland, a famous American career guidance expert, designed “Holland's occupational interest scale" in 1959. He believed that personality, interest and occupation are closely related. However, gender have different effects on career interest, career development, income and entrepreneurial intention (John Holland, 1959). According to the survey of 3021 private enterprises, the researcher found that the number and revenue of enterprises founded by women were less than that of men from 1989 to 2012 (Enhaih, 2011). Thus, many factors contribute to the different between men and women in entrepreneurial behaviors. Entrepreneurial learning is an important factors that has been demonstrated to play a key role in determining the level of entrepreneurial intention. Entrepreneurial learning help personal get the necessary skills that be needed to succeed in entrepreneurship. Interestingly, the effects appear to differ by gender. Women in particular shun entrepreneurial endeavors because they think they lack the required skills (Chen, Greene & Crick, 1998).

However, there are also some studies indicated that the gender differences in entrepreneurial activities are not obvious (Muller, 2004; Kostera, 2003). Although there are few

studies on gender differences in entrepreneurial learning, the research on gender differences has been started in other learning fields. These studies have proved that men and women have significant differences in psychology, language, personality and cognitive ability, Ellis (1994) indicated in the research that individual differences affecting learning include age difference, gender difference, and cognitive ability difference, personality difference, learning motivation difference and learning strategy use difference. These factors have made great breakthroughs in both theoretical and empirical studies, but unfortunately, there is little research on gender differences in employment and Entrepreneurship of vocational college students. Therefore, it is necessary to study the students' groups in vocational colleges. We are motivated to further explore these relationships that a more complete understanding of the interplay between gender, entrepreneurial learning, and entrepreneurial intention is key to improving the participation rate of women in entrepreneurial activities.

Research objectives

This article investigates the entrepreneurial situation of higher vocational college students. The objectives are to analyze the gender difference and the relationship between on entrepreneurial learning and entrepreneurial intention from the perspective of higher vocational colleges, so as to effectively enhance the core competitiveness of Vocational College Students in Entrepreneurship, and provide scientific basis for training qualified technical talents.

Literature reviews

Entrepreneurial Learning (EL)

The researchers have not reached a consensus on the dimension of entrepreneurial learning. Holcom (2009) and others believe that experiential learning and cognitive learning are two dimensions of entrepreneurial learning. His views are widely adopted, and these two dimensions have mature scales. However, the important characteristics of entrepreneurial activities are strong practicality and unpredictability. This feature makes entrepreneurial activities have no "standard processes or procedures" to refer to ensure success. Hamilton (2011) stated that different from experiential learning and cognitive learning, practical learning occurs in specific environmental backgrounds or unique social situations. In addition, Photchanachan and

Thechatakerng (2019) education, skill, training, and experiences were the component of human capital that could build social innovation for businesses. So, in the Chinese context, the role of practical learning is particularly important and obvious. This article proposes that entrepreneurial learning of higher vocational college students mainly focuses on three aspects: entrep reneurial cognitive learning, entrepreneurial experience learning, and entrepreneurial practical learning. It is measured by14 question items adopted from the study of Holcom (2009) and Biaoan Shan (2013).

Entrepreneurial Intention (EI)

This study mainly draws on the viewpoints of Krueger (1993) and (Chen, Greene & Crick, 1998), and defines entrepreneurial intention as the psychological state of an individual taking entrepreneurial activities as a future career choice. Entrepreneurial intention is the subjective thinking and mental state of entrepreneurs before they implement entrepreneurial behavior (Krueger et al., 2000). Baron (2008) proposed that a key factor in generating entrepreneurial motivation and entrepreneurial desire is entrepreneurial passion, which can stimulate people's internal motivation and individual entrepreneurship (Vallerand et al., 2010). Thus, when entrepreneurial passion is stimulated, emotional expression strengthens. With a high interest in entrepreneurship, the individual's perception of entrepreneurship will be enhanced, as will the possibility of translating ideas into actions. Therefore, this study mainly refers to their measurement scale and modifies the content of the scale. There are 7 items to measure the individual's entrepreneurial intention.

The relationship between entrepreneurial learning and entrepreneurial intention

Drucker (1985) stated that entrepreneurship can be learned through training. Kuratko (2014) also confirms that the personality traits, abilities, and skills required to become entrepreneurs can be acquired through training. Menzies and Paradi (2003) found that the entrepreneurial rate of students who participated in entrepreneurship courses after graduation was higher than that of other students who did not participate in entrepreneurship courses. In fact, many scholars have confirmed that individuals can have a positive impact on Entrepreneurial intention through entrepreneurial learning (Kuratko, 2005). Therefore, there are still varying degrees of differences in the mechanism of the existing entrepreneurial learning on Entrepreneurial intention, and there is no unified conclusion in academia. So it is necessary to

explore under what circumstances entrepreneurial learning has the strongest and weakest stimulating effect on Entrepreneurial intention. This paper proposes the following hypotheses:

Hypothesis 1: Entrepreneurial learning (Cognitive Learning, Experiential Learning, Practical Learning) of higher vocational college students has a positive effect on their entrepreneurial intention.

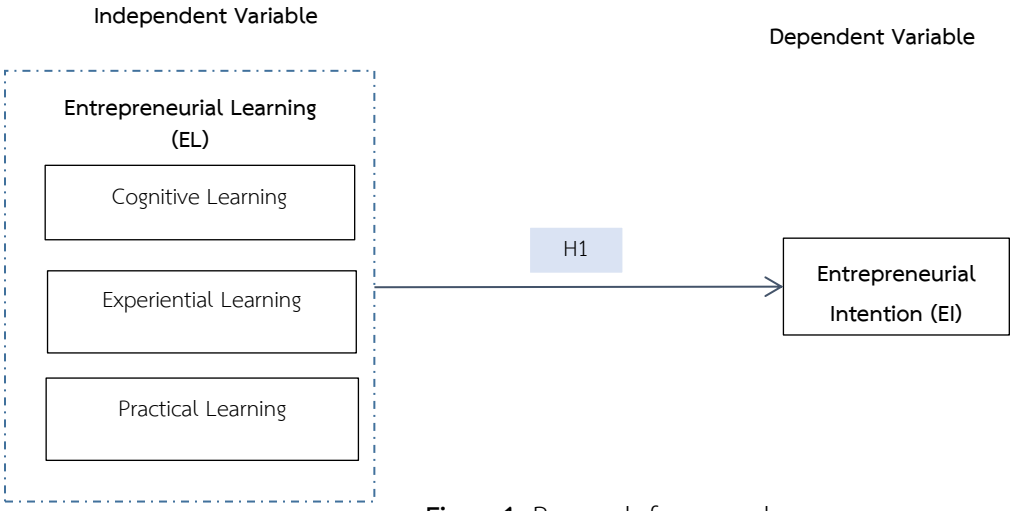

Figure1: Research framework

Methods

The data used in this study are collected through a questionnaire survey. The questionnaire was distributed among the students of universities in 10 vocational colleges in Shaanxi. These school include both state-level demonstration colleges and common vocational colleges, both technical colleges and finance and economics colleges, both private colleges and public colleges. The data from these colleges have higher typicality and representative. We conduct a two-stage sampling survey in this study. 450 questionnaires were distributed, 442 questionnaires were returned, and the questionnaire recovery rate 98.2%, and 428 valid questionnaires, the valid rate of questionnaires is 96.8%. Data was analyzed by suing t-test and Structural Equations Model (SEM) to test the hypothesis.

Research results and analysis

Reliability and validity of the scale

Table 1: Reliability and validity of Entrepreneurial Learning-Scale

Rotation Components Matrix[a]

	Ingredients		
	factor 1	**factor 2**	**factor 3**
CL1	0.770		
CL2	0.817		
CL3	0.829		
CL4	0.848		
CL5	0.866		
EL1		0.824	
EL2		0.891	
EL3		0.897	
EL4		0.876	
PL1			0.853
PL2			0.860
PL3			0.819
Eigenvalues	3.445	3.084	2.224
Explanation of total variance	28.712	25.702	18.535
Total variance in cumulative interpretation	28.712	54.414	72.949
KMO	0.790		
Approximate chi-square	664.377		
Significant	0.000		
Cronbach's Alpha	0.878		

Method: main component.

Rotation method: An orthogonal rotation method standardized by Kaiser.

The rotation converges after 4 iterations

After deleting the item, the KMO value is 0.790 greater than 0.7, the approximate chi-

square of the Bartlett sphericity test is: 664.377, the P value of the Bartlett sphericity test is 0.000, less than 0.05, so the Bartlett sphericity test is rejected The validity structure of the scale is good and the Alpha value of each scale is greater than 0.8, so it can be judged. The reliability of each scale is very good.

So, the Entrepreneurial Learning has three factors. factor 1 has a larger load on the variables "CL1", "CL2", "CL3", "CL4", and "CL5", it is named "Entrepreneurship Cognitive Learning"; factor 2 is in the variable " "EL1", "EL2", "EL3", and "EL4" have larger loads, so they are named "Entrepreneurship Experience Learning"; factor 3 is greater in variables "PL1", "PL2", and "PL3" The load is named "Entrepreneurship Practice Learning".

Table 2: Reliability and validity of Entrepreneurial intention-Scale

Variable	**Factor 1**
EI1	0.887
EI2	0.866
EI3	0.774
EI4	0.832
EI5	0.881
EI6	0.857
EI7	0.788
Eigenvalues	4.959
Explanation of total variance	70.841
Total variance in cumulative interpretation	70.841
KMO	0.936
Approximate chi-square	523.992
Cronbach's Alpha	0.931
Significant	0.000

Extraction method: principal component analysis method.

One component was extracted.

The above table shows that first: the KMO value is 0.936 greater than 0.7, the

approximate chi-square of the Bartlett sphericity test is: 523.992, the P-value of the Bartlett sphericity test is 0.000, which is less than 0.05, so the validity structure of the scale is good. The Alpha value of each scale is greater than 0.8, so it can be judged. The reliability of each scale is very good.

It can be seen from the table that according to the benchmark with the feature value greater than 1, a common factor is extracted, and it can be explained by this common factor reaches 70.841 percent. This factor can basically explain Information contained in 7 initial variables,"EI1", "EI2", "EI3", "EI4", "EI5", "EI6", and "EI7", and named "Entrepreneurship intention".

t-test analysis

Table 3: t-test analysis of various variables in different genders

Checking variable		Number	Mean	Standard deviation	t value	P value
Cognitive learning	Male	223	3.68	0.993	-0.641	0.522
	Female	205	3.74	0.97		
Experiential learning	Male	223	3.31	1.139	2.011	0.045
	Female	205	3.09	1.129		
Practical learning	Male	223	2.91	1.2	2.593	0.010
	Female	205	2.61	1.157		
Entrepreneurial Intention	Male	223	2.96	1.124	3.309	0.001
	Female	205	2.61	1.022		

The above table is a T-test analysis of entrepreneurial cognitive learning, entrepreneurial experience learning, entrepreneurial practice learning, and entrepreneurial intention of different genders. It can be seen from the table that the variables in entrepreneurial experience learning, entrepreneurial practice learning, and entrepreneurial intention test T statistics all reach significant levels, and the significance probability value P is less than 0.05, indicating there are significant differences for different groups of people in entrepreneurial experience learning, entrepreneurial practice learning and entrepreneurial intention. Men’s entrepreneurial

experience learning (M=3.31) was significantly higher than that of women (M=3.09), and men's entrepreneurial practical learning (M=2.91) was significantly higher than that of women (M=2.61), and the man's entrepreneurial intention (M=2.96) is significantly higher than female group (M=2.61). The T statistics of the variables in entrepreneurial cognitive learning are not significant, and the significance probability value P is greater than 0.05, indicating that different groups of people have no significant differences in entrepreneurial cognitive learning.

SEM analysis

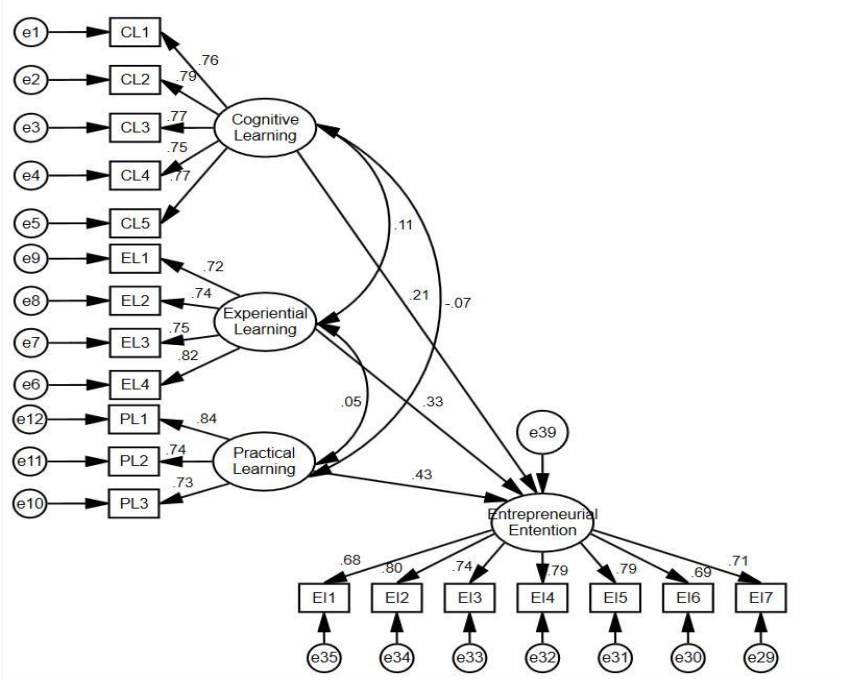

Figure1: Model of entrepreneurial learning on entrepreneurial intention

The goodness-of-fit of the direct influence model is good, the CMIN/DF is 1.068<3.000, (χ2/df=1.068<3.000 ; CFI=.997 ; GFI=0.963 ; TLI=0.997 ; IFI=0.997 ; RMSEA=0.013), the model fit was good and the model results were significant.

Table 4: Model Verification

Path		Point estimate		Coefficient product		Bootstrapping				P
						Bias-Corrected 95%		Percentile 95%		
Independent variable	Dependent variable	Std.	Unstd.	SE	Z	Lower	Upper	Lower	Upper	
PL	EI	.434	.417	.053	.868	.324	.538	.318	.533	***
EL		.328	.296	.049	.041	.204	.397	.205	.398	***
CL		.206	.217	.052	.173	.122	.328	.120	.322	***

Note. 2000 Bootstrapping samples

The first row in the table is the relationship between entrepreneurial practice learning and entrepreneurial intention. its standardized coefficient is 0.434>0, the absolute value of the Z value is 7.868>1.96, and the lower limit of the Bias-Corrected interval in the Bootstrapping test is 0.324, the upper limit of the interval is 0.538, the interval does not contain 0, the lower limit of the interval of Percentile in the Bootstrapping test is 0.318, the upper limit of the interval is 0.533, and the interval does not contain 0. It is indicated entrepreneurial practice learning has a significant impact on the direct model of entrepreneurial intention, and the impact direction is positive.

Discussions and Conclusions

Discussions

Firstly, gender differences have no significant impact on Vocational College Students' entrepreneurial cognitive learning, but have a significant impact on entrepreneurial experience learning and entrepreneurial practice learning. Female and male' entrepreneurial cognitive learning ability are basically the same, but male's entrepreneurial practical learning ability and entrepreneurial experience learning ability are significantly higher than female. This is associated with Photchanachan and Thechatakerng (2019). They indicated that male entrepreneurial played

an important role for in driving social innovation by using skill, experience, education, and training to create social innovation for businesses.

Secondly, the gender difference of vocational college students has a significant impact on entrepreneurial intention. Male have higher entrepreneurial intention than female. Female is very important in the field of entrepreneurship, therefore, higher vocational colleges should further strengthen the guidance and cultivation of female entrepreneurship. It is in line with previous research. Women are less likely to become entrepreneurs than men (Aldrich, 2005; Ruef et al., 2003) and less likely to outperform once a new venture is founded (Kim et al., 2006; Yang and Aldrich, 2014).

Thirdly, the result support that three dimensions of EL have a significant effect on EI, among which entrepreneurial practice learning (0.43) has the most significant effect, followed by entrepreneurial experience learning (0.33) and entrepreneurial cognitive learning (0.21). It is in line with previous research. Gist (1987) indicated that entrepreneurs can not only gain experience through practice to enhance entrepreneurial self-efficacy, but also gain experience through observational learning, which is slightly less effective than the first one. This result brings exciting good news to the Chinese government, vocational colleges and related institutions, which confirms that the current entrepreneurship education is effective.

Conclusions

Higher vocational colleges should pay attention to gender differences and improve learning methods, strengthen the research on psychology and pedagogy, pay attention to the gender differences between male and female students in entrepreneurial learning, and give classified guidance. We should guide female students to correctly understand the self-cognitive barriers brought by gender, encourage them to actively participate in entrepreneurial practice, carry out gender differentiation education according to students' need and their specific needs for entrepreneurial knowledge, entrepreneurial skills, etc., strengthen the proportion of female students' experience and practical learning, establish gender differentiated assessment system, and effectively guide different genders' entrepreneurial intention Of the students.

Higher vocational colleges should pay more attention to the entrepreneurial practice process and experience learning. They should also actively organize students to participate in

various kinds of entrepreneurship competition, entrepreneurship practice, entrepreneurship salon and other activities, make use the College Students' Entrepreneurship space and various platforms, such as e-commerce entrepreneurship platform, to provide female with entrepreneurial practice opportunities and enhance their entrepreneurial interest and experience. The environment faced by entrepreneurs is also complex and dynamic. Enhancing practical learning in entrepreneurship and attaching importance to learning and summarizing entrepreneurial experience are important for stimulating entrepreneurship.

In the process of practicing entrepreneurship training, we should focus on experiential learning. Experiential learning is an important source of enhancing entrepreneurial intentions. Experiential learning brings information about customers, competitors, technology, etc. to potential entrepreneurs, and builds professional knowledge and skills in related industries. The more extensive the experience they have, the stronger the potential entrepreneurs' ability to comprehend new information and apply the new information of new products or services in the future. Higher vocational school should establish an incentive system to help entrepreneurial students to get the support of the state, local governments and social funds. Strengthen entrepreneurial cognitive learning and set up typical case. Through the "Entrepreneurship Star" evaluation, establish a typical case of College Students' entrepreneurship, pay attention to the study of successful female entrepreneurship cases, and invite successful female entrepreneurs to give lectures in the school, so as to enhance the confidence of female students in entrepreneurship.

Recommendations for future research

Future research should focus on the specific entrepreneurial learning measures for students of different genders, and study the role of gender in the impact of entrepreneurial learning on entrepreneurial intention, so as to put forward more effective learning measures to improve the overall entrepreneurial intention of higher vocational college students.

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