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Construction and Validation of A Conceptual Entrepreneurship Competency Model for Politics and Law Majors

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Abstract

In terms of the study of entrepreneurship competency, significant progress has been made by many scholars. Several entrepreneurship competency models have been built up focusing more on what the general sub-competencies are included, but the specific competency differences and special competency requirements for different colleges and majors are ignored, making them not applicable for all the teaching and learning subjects, for example, the politics and law majors. Till now, although some scholars in China have done some research on the entrepreneurship competency of undergraduates majoring in politics and law in some universities, there is still relatively little research in this area for political and law majors in higher vocational colleges of political science and law. Hence, in view of this situation, based on literature analysis, expert interviews and additional surveys, this paper focused on the construction and the validation of a conceptual entrepreneurship competency model (ECM) that conforms to the specific characteristics of higher vocational colleges of political science and law. The study was conducted in two phases: entrepreneurship competencies' identification and model construction from literature review, documents analysis and interviews (n=12) in phase I for educators and excellent performers and validation of the model in the form of questionnaires (n = 416) in phase II, during which, the reliability and validity of the instrument were checked to ensure the operability of the model.

Keywords: Entrepreneurship, Competency Model, Onion Model, Politics and Law Majors, Vocational Colleges

Introduction

Nowadays, in the context of the new normal for the economy, the trend of entrepreneurship has already been a certain main power for the global economic development. It is also of great importance to relieve the increasingly severe employment pressure, to meet the challenges of the knowledge, economy and the information age, and eventually to make a country's sustainable and continuous development (Venesaar et al., 2022). Since the beginning of the 21st century, entrepreneurship education programs in higher education have developed rapidly worldwide. Entrepreneurship education aimed at making students have stronger social adaptability and independent survival and development ability (Cárdenas-Gutiérrez et al., 2021). The core of entrepreneurship education is to motivate students' entrepreneurship consciousness and cultivate their entrepreneurial competency. Entrepreneurship competency is recognized as a key competency for lifelong learning, an essential element for all citizens in a knowledge-based society (Keohane, 2019), as well as an important potential to improve the future well-being of each learner (OECD, 2018), see also (OECD, 2019).

In terms of the study of the entrepreneurship competencies, by reviewing the literature in Scopus, WOS and CNKI in China, significant progress has been made by exploring different frameworks. Several entrepreneurship competency models have been developed and built up in the EU, the UK, the US, the Nordic countries and in China (Bacigalupo, 2016; DEMENT et al., 2019; Gibb, 2008; Jia et al., 2014; Rasmussen & Fritzmer, 2016), which focusing more on what general sub-competencies are included, but the specific competency differences and special competency requirements of different majors are ignored, making them less applicable to different learning subjects. And although there are studies on the entrepreneurship competencies for a specific group of people, major or field, the problem is most of the studies are focused on engineering colleges or majors (He, Standen, & Coetzer, 2017), there is no specific research concerning entrepreneurship competency for politics and law majors in higher vocational colleges of political science and law. Therefore, drawing on the previous study, constructing a conceptual entrepreneurship competency model that includes sub-competencies applicable and validated potentially developable for politics and law majors in higher vocational colleges of political science and law may be beneficial for students to develop their comprehensive sustainable entrepreneurship competency and for educators to better explore the cultivation pathways.

Literature Review

In reviewing entrepreneurship competency related articles in the Scopus, WOS and CNKI over the past ten years, many scholars have put forward different opinions on entrepreneurship competency necessary to address the specific challenges of starting and managing a small business from different perspectives, dimensions and depths (Huck & McEwen, 1991). As a new emerging type of education, the rich range of personal competencies is largely comprised of entrepreneurial skills and competencies, which are increasingly viewed as something like a course that can be acquired through training and practice like any other subject, and that is why it should be taught in all types of educational institutions (Timmons & Spinelli, 2003). As a result, entrepreneurship education, university entrepreneurship programs and their function and efficacy in promoting entrepreneurship have got increasing academic interest worldwide over the past few decades (Cadle et al., 2010; Cho & Lee, 2018; Elmuti et al., 2012; Hahn et al., 2017; Oehler et al., 2015; Pihie & Bagheri, 2010). And there are also many case studies and programs devoted to the entrepreneurial competencies training and

development in educational institutions by some scholars (Bacigalupo, 2016; Cárdenas-Gutiérrez et al., 2021; Venesaar et al., 2022). There is widespread academic concern about the appropriate educational methods to cultivate and evaluate competencies for adaptation or conformity to real business environments (Guo et al., 2015).
However, the fact is that, although entrepreneurship education have grown in recent decades, there are authors who still maintain and claim that the education should be constantly promoted Paiva et al (2019), that courses and programs on entrepreneurship education are not sufficiently embedded into the curricula of higher education institutions Wibowo & Saptono (2018), and that entrepreneurship education at university level is deficient and generally found in business disciplines (Suska, 2018), which means, most of the competency research are mainly proposed or summarized focusing on students majoring in business or engineering and is not necessarily suitable for every level or every type of school or institution (Venesaar et al., 2022). For political and law majors in higher vocational colleges of political science and law, students who do not see themselves as business-related entrepreneurs (Jansen, 2010). Considering the characteristics of the political science and law majors, it is significant to cultivate students' entrepreneurship competency, improve their job market adaptability and future entrepreneurship in the field of political science and law. Hence, it is of profound benefits to construct an entrepreneurship competency model with its own unique features suitable to the higher vocational colleges of political science and law, based on which practical cultivation pathways can be further explored and discussed.
In addition, through literature review, the onion competency model Boyatzis (1998) is usually taken as the structure basis for the construction of the entrepreneurship competency model. The Onion Model provides an effective tool to measure and explore the general entrepreneurship competency system that a specific occupational group should have and has certain reference and guiding significance concerning the modeling of the entrepreneurship competency model(ECM) for this study. And till now, there is no study on the construction of entrepreneurship competency model based on Onion model for politics and law majors in higher vocational college of political science and law.
In response to the gap in the literature, this article addresses the following two questions:

•What are the constructs and sub constructs of entrepreneurship competencies indispensable for politics and law majors in higher vocational college of political science and law?
• What is the valid framework of the conceptual entrepreneurship competency model for politics and law majors in higher vocational college of political science and law?
Therefore, here are two objectives of this research:

• To identify constructs and sub constructs of entrepreneurship competencies indispensable for politics and law majors in higher vocational college of political science and law.
• To develop an instrument to validate the conceptual framework of entrepreneurship competency model for Politics and law majors in higher vocational college of political science and law.

Methodology
The research was developed in two phases via qualitative and quantitative methods: Phase 1) development and construction of the questionnaire based on Entrepreneurship Competency

model (ECM); and phase 2) validation of the ECM (Table 1 shows the exact procedure of the study).

Phase 1: Development of the questionnaire

Sub-phase 1: Identification and construction of ECM from literature review and documents analysis. A systematic literature review was conducted in the acknowledged educational databases (Scopus, WOS and CNKI in China), with the aim of generating the constructs and sub constructs of the entrepreneurship competency model. A pre-defined PRISMA protocol was developed under the searching strategy with the key words "entrepreneurship competency" or "entrepreneurial competency" (Moher, Liberati, Tetzlaff, Altman, & PRISMA Group*, 2009). In terms of the inclusion criterion, as the purpose of this phase is to get a comprehensive grasp of the entrepreneurship competencies worldwide, only studies that focus on the entrepreneurship competencies were included. Literature reviews on a specific entrepreneurship competency and papers written in non-English were excluded. The eligibility requirements were a) the objectives and contents of entrepreneurship competencies; and b) the typology of the entrepreneurship competency study, including conceptual, empirical, quantitative and qualitative research. Additionally, the latest documents concerned with entrepreneurship teaching and training for political and legal colleges in China were also reviewed.

Sub-phase 2: Identification and construction of ECM from Interviews. Later, semi-structured interviews with educators(n=9) and event interviews(n=3) were done via a convenience sampling. Nine educators were selected through the criterion of having rich entrepreneurship competency teaching and training experience. Three excellent performers were chosen with the criterion of having successful entrepreneurship practice and recognized high expertise. All the interviews lasted with 30 minutes. The recorded data from the interviews were transcribed into texts and analyzed with the NVivo 12 Plus software.

Sub-phase 3: Content validity. The content validity of the review data was conducted through the following two types of approach. Firstly, the subject-matter consensus by means of content validity ratio (CVR)was employed to rate the importance and categorize the 50 entrepreneurship competency items with the concretion that as long as any a single expert expressed a clear opinion of revision, the written versions of the items will be revised. The Content Validity Ratio (CVR) was done under a 3-point Likert scale from non-important to highly important, those items with score 0.62 were included in the instrument (Lawshe, 1975; Polit & Beck, 2006). The experts' judgment technique with a criterion of surpassing 80% of concordance in the indications was applied to guarantee a high consensus among the experts during the whole content analysis.

Sub-phase 4: Face validity. A focus group(Wilkinson, 1998) of 9 students through a convenience sampling are assembled to do the face validity by using the think-aloud protocol technique (Ericsson, 2017). The selection criterion is that all the selected students have all either accepted the entrepreneurship teaching/training or participated in entrepreneurship competition/practice during their years' teaching and training. The verbal data of educators' ideas and suggestions for each item was recorded, transcribed and analyzed with the NVivo 12 Plus program, which helps the researcher identify the information that is concentrated on (Slocumb & Cole, 1991).

Phase 2: Validation of the ECM.

Sub-phase 1: Entrepreneurship Competency Validation Instrument Development. For the current study, transforming the entrepreneurship competency model according to each construct and its sub constructs in a measurement form to items for validation adopted the procedure mentioned by (Sitthisak, Gilbert, & Davis, 2009). Eventually, the entrepreneurship competency model self-evaluation tool (ECM-SET) was generated.

Sub-phase 2: Pilot Study. A sample of 25 students selected through purposeful random sampling techniques were taken as participants for pilot study. The responses of the subjects were numerically measured according to the 5-point Likert scale (Likert, 1932), which helped the researcher easily demonstrate and explain the basic components of the research structure and then draw deeper conclusions (Muijs, 2010) for the formal implementation of the ECM-SET.

Sub-phase 3: Recruitment and sampling. The study recruits all students from the nine political and law related departments in Hebei Vocational college of political science and law during the academic session 2021/2022 as the research population. In this study, the formula and simple random sampling technique (Neuman, 2007) were used to determine the sample size(n=416).

Sub-phase 4: Validation of the ECM-SET. Exploratory factor analysis (Williams, Onsman, & Brown, 2010) and confirmatory factor analysis (Thompson, 2004) were conducted by using the SPSS 26 (Pallant, 2020) and AMOS 24 (Lee & Lim, 2017).

1) **Descriptive analysis.** The descriptive analysis of the items was done under the descriptive statistics including the mean (μ), standard deviation (σ), Skewness. and kurtosis (K) (Lawless, 2010; Royston, 1992).

2) **Construct validity.** The construct validation of the ECM was implemented through the following two factorial analyses (Ahire & Devaraj, 2001).

a) **Exploratory factor analysis (EFA).** EFA was applied to check the degree of the suitability through Kaiser's KMO and Bartlett's Sphericity Test (Whittaker & Worthington, 2016). The ordinary least squares method was utilized in the assessment of the factors, and within which the unweighted least squares method was the most frequently recommended method (Flora et al., 2012). After evaluating these factors and achieving a high degree of simplicity and interpretability of the obtained factorial solutions, the direct Oblimin rotation technique was used Dismuke & Lindrooth (2006), taking into account the assumption of correlations between the underlying variables or factors analyzed (Harrington, 1994). Lastly, the factors were selected according to the parallel analysis Courtney (2013) with the criteria of that the eigenvalues being higher than 1, besides the selection of the factors also take the variance explained into the consideration.

b) **Confirmatory factor analysis (CFA).** CFA was recommendable for the checking of the conceptual model (Brown, 2015). This methodological process below was carried out in sequence: 1) the Unweighted Least Squares technique; 2) oblique rotation technique with the direct Oblimin criterion; and 3) the use of a set of model fitness indicators, an incremental and Comparative Fit Index, to interpret the model extracted. The interpretation of the revising criteria is based on the scores showed in each indicator. Scores respectively in NFI，IFI and TLI equal to or higher than 0.9, scores of CMIN/DF equal to or lower than 3，along with scores equal to or less than 0.8 in RMR and RMSEA are considered in a good fitness (Hu & Bentler, 1999; Matthews, Hair, & Matthews, 2018).

3) **Reliability.** The internal consistency was analyzed with the Cronbach´s α coefficient to evaluate the reliability of the model. Scores above 0.7 of the composite reliability is interpreted

internal consistent (Nunnally & Bernstein, 1978).

4) **External validity.** To estimate the external validity of the instrument, the convergent analysis was conducted by means of the composite reliability index (CRI) and the average variance extracted (AVE). Both CRI and AVE provide detailed information on the amount of variance explained by the construction for each of its indicators, and being equal to or higher than 0.7 and 0.5 respectively is generally taken as the reference value (Fornell & Larcker, 1981). According to the method of Fornell and Larcker, the square root of AVE extraction of each variable that is greater than the absolute value of the correlation coefficient between this variable and other variables (Taylor, 1990), indicates that the data has good discriminative validity (Fornell & Larcker, 1981).

Sub-phase 5: The generation of the final valid framework of the ECM. Since data were collected and analyzed, results and findings can be interpreted to make further illustration for the research problems.

Table 1
Process and chronological axis of the research design in each phase

Phase 1 Development and construction of the questionnaire based on entrepreneurship competency model(ECM)	
Sub-phase1 Identification of the ECM from literature review and documents analysis	
Bibliographic review in databases and document analysis	From March 20th. to April 20th. 2022
Inter-rater reliability validation (Fleiss Kappa)	Experts(n=5); April 20th. 2022
Sub-phase 2 Identification of the ECM from Interviews	
Interviews with educators	Educators (n = 9) ; April 22nd. 2022
Interviews with excellent performers	Excellent performers (n=3); April 22nd. 2022
Sub-phase 3 Content Validity	Experts(n=5); April 25th. 2022
Sub-phase 4 Face Validity	Students(n=9); April 26th. 2022
Phase 2 Validation of the ECM	
Sub-phase 1 Entrepreneurship Competency Validation Instrument Development	From April 28rd. to May 11th. 2022
Sub-phase 2 Pilot Study	
Sub-phase 3 Recruitment and sampling	From May 16th. 2022 to May 23rd. 2022; students(n=25)
Sub-phase 4 Validation of the ECM	From June 1st. to June 7th. 2022;Sample (n = 416)
Descriptive analysis	
Construct validity	From June 8th. to June 15th. 2022
Exploratory factor analysis	Sample (*n* = 416)
Confirmatory factor analysis	Sample (*n* = 416)
Reliability	From June 17th. to June 24th.2022
Cronbach Alpha	Sample (*n* = 416)
External Validity	From June24th. to June 30th. 2022

Convergent validity	Sample (*n* = 416)
Divergent validity	Sample (*n* = 416)
Data interpretation	
Producing the report	
Sub-phase 5 The generation of the final valid framework of the ECM	
Data interpretation	

Findings

Qualitative Findings

1) **Identification and construction of ECM from literature review and documents analysis**. 893 research works were identified in the literature review. After the title, abstract, and full-text screening only 19 articles were selected, along with another five documents were mainly referred to, and were evaluated by experts under Fleiss kappa experts' judgement. (Fig 1). An initial conceptual framework with five constructs and 34 sub constructs was generated for the following qualitative study with interviews to educators (9) and excellent performers (3).

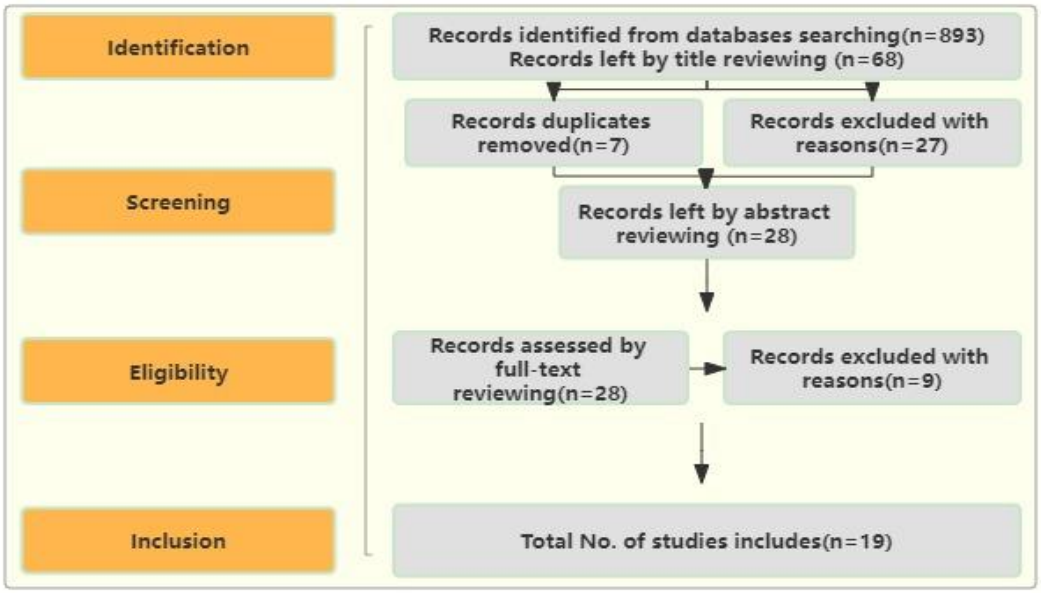


Figure 1. The PRISMA flowchart

1) **Identification and construction of ECM from Interviews.** New themes emerged through data coding and analysis of the interviews. The identification of ECM from literature and documents analysis, along with the findings extracted from interviews, contributes to the generation of the interim framework of the ECM with five constructs and 50 sub constructs.

2) **Content validity.** The Fleiss' Kappa index (K ≧ 0.80) shows a strong agreement degree of the of the content among experts. Among the 50 writings, 26 items were modified. According to (Lawshe, 1975), all the items were higher than 0 .62 in CVR. The CVR of the framework was 0.99, revealing that the Entrepreneurship Competencies model has a high consistency in the content validity.

3) **Face validit**y. All the nine students deemed that the language flow of the entrepreneurship competencies was legible and comprehensible, and the organization was suitable and acceptable.

In summary, the theoretically extracted entrepreneurship competency constructs and sub constructs got empirical support by the findings from the interviews' perceptions. Through further refinement, the framework of entrepreneurship competency constructs and sub constructs were developed from the initial items of 34 to the interim items of 50. The focus of the analysis at this phase is to figure out constructs and sub-constructs of entrepreneurship competencies indispensable for politics and law majors. These findings then proposed a list of entrepreneurship competencies included in the Entrepreneurship Competency Model (ECM) which is the right answer to the first question.

Quantitative findings

1) The Descriptive Analysis

Table 2 shows the mean value of each question is above 3 which is higher than the theoretical mean value of 3 indicating that the overall level is higher. The kurtosis was less than 10 and the Skew. was less than 3, indicating that the data approximately followed a normal distribution. CITC were all above 0.4, showing a good internal consistency of the data.

Table 2

The Descriptive Analysis of the sub-constructs of the ECM-SET

Description of the sub-constructs	M	SD	Skew.	Kurt.	CITC
General knowledge	3.413	1.081	-0.627	-0.165	0.525
Professional knowledge	3.399	1.097	-0.412	-0.323	0.514
Interdisciplinary knowledge	3.392	1.094	-0.492	-0.23	0.529
The knowledge of humanities and social sciences	3.389	1.081	-0.316	-0.539	0.577
Scientific research on epistemological knowledge	3.442	1.090	-0.385	-0.510	0.537
Scientific research methodology knowledge	3.401	1.098	-0.385	-0.552	0.551
Abroad scope of knowledge	3.450	1.063	-0.514	-0.413	0.532
Rich imagination	3.572	1.071	-0.538	-0.447	0.544
Sharp observation	3.654	1.082	-0.687	-0.103	0.542
Super memory	3.654	1.071	-0.576	-0.323	0.594
Logical thinking ability	3.656	1.053	-0.486	-0.370	0.576
Knowledge application ability or transformation ability	3.570	1.091	-0.515	-0.515	0.608
Problem finding and solving ability	3.620	1.062	-0.469	-0.365	0.548
Ability to acquire and select information.	3.666	1.035	-0.489	-0.216	0.552
Comprehensive analysis ability	3.623	1.064	-0.48	-0.414	0.519
Continuous learning ability	3.651	1.06	-0.548	-0.423	0.555
Team cooperation ability	3.671	1.071	-0.532	-0.466	0.574
Risk response ability	3.594	1.074	-0.462	-0.544	0.598

Leadership decision-making ability	3.601	1.086	-0.561	-0.433	0.56
Expression and communication skills	3.668	1.064	-0.584	-0.176	0.577
Logical thinking ability	3.851	1.007	-0.665	-0.133	0.612
Divergent thinking	3.813	0.986	-0.724	0.233	0.647
Concentrated thinking	3.825	1.009	-0.803	0.374	0.631
Associative thinking	3.844	1.000	-0.758	0.209	0.642
Critical thinking	3.779	0.986	-0.635	0.043	0.648
Reverse thinking	3.793	0.975	-0.659	0.018	0.613
Similar thinking	3.825	1.016	-0.668	-0.123	0.609
Dialectical thinking	3.873	0.975	-0.731	0.077	0.657
Intuition, inspiration and other illogical thinking	3.820	0.988	-0.715	0.087	0.607
Curious	3.298	1.022	-0.323	-0.495	0.503
Eager for knowledge	3.332	1.030	-0.433	-0.377	0.445
Ambition	3.332	1.053	-0.322	-0.694	0.515
Enterprising	3.377	1.032	-0.316	-0.727	0.515
Confident	3.361	1.048	-0.372	-0.433	0.526
Hardworking spirit	3.341	1.070	-0.358	-0.65	0.519
Anti-frustration spirit	3.404	1.091	-0.35	-0.582	0.487
Break away from convention and not be superstitious about authority	3.332	1.067	-0.573	-0.291	0.466
Firm study spirit	3.365	1.018	-0.491	-0.398	0.451
Rigorous and realistic spirit	3.313	1.084	-0.281	-0.741	0.55
Correct world and life view	3.76	1.062	-0.624	-0.239	0.593
Keeping pace with times	3.704	0.997	-0.538	-0.161	0.571
Community of Shared Future for Mankind's Global View	3.709	1.053	-0.643	-0.117	0.612
Friendly with honesty	3.69	1.056	-0.587	-0.246	0.606
Responsible	3.704	1.094	-0.625	-0.233	0.575
Patriotism and commitment	3.695	1.06	-0.586	-0.262	0.593
Equality and freedom	3.702	1.077	-0.56	-0.362	0.632
Fairness and justice	3.702	1.088	-0.538	-0.392	0.622
Noble aesthetics	3.704	1.083	-0.649	-0.195	0.572
Observe laws and discipline	3.712	1.077	-0.638	-0.295	0.583
Dedication, sympathy and service spirit	3.7	1.125	-0.592	-0.459	0.638

2) Exploratory Factor Analysis (EFA)

Table 3 indicates that the KMO (0.964) is greater than 0.6, which meets the premise requirements of factor analysis, and means that the data can be used for factor analysis research. In addition, the result of the Bartlett sphericity test of the data is $p < 0.05$, indicating that the study data are suitable to do factor analysis.

Five factors are extracted from factor analysis in Table 4, and the characteristic root value is greater than 1. The interpretation rate of the five factors is 17.537%, 4.524%, 3.548%, 2.578% and 2.119% respectively, and the interpretation rate of cumulative variance after rotation is 60.612%.

Table 3 The Results of EFA

KMO and Bartlett

KMO		0.964
Bartlett Sphelicity test	Approximate chi square	13048.493
	df	1225
	p	0.000

Table 4

The Factor Analysis

Sub-constructs	Description of the factors and sub-constructs	Factor Loading					h2
	Knowledge (K)	1	2	3	4	5	
K1	General knowledge					0.751	0.662
K2	Professional knowledge					0.752	0.656
K3	Interdisciplinary knowledge					0.766	0.69
K4	The knowledge of humanities and social sciences					0.723	0.658
K5	Scientific research on epistemological knowledge					0.729	0.635
K6	Scientific research methodology knowledge					0.768	0.701
K7	A broad scope of knowledge					0.767	0.68
	Skill(S)						
S8	Rich imagination	0.665					0.514
S9	Sharp observation	0.699					0.545
S10	Super memory	0.721					0.6
S11	Logical thinking ability	0.701					0.57
S12	Knowledge application ability or transformation ability	0.695					0.581
S13	Problem finding and solving ability	0.68					0.538
S14	Ability to acquire and select information.	0.716					0.574
S15	Comprehensive analysis ability	0.704					0.556
S16	Continuous learning ability	0.711					0.576
S17	Team cooperation ability	0.706					0.585
S18	Risk response ability	0.737					0.623
S19	Leadership decision-making ability	0.695					0.564
S20	Expression and communication skills	0.74					0.612
	Thinking Ability (TA)						
TA21	Logical thinking ability				0.688		0.625
TA22	Divergent thinking				0.683		0.653
TA23	Concentrated thinking				0.697		0.646
TA24	Associative thinking				0.688		0.646
TA25	Critical thinking				0.693		0.658
TA26	Reverse thinking				0.686		0.618
TA27	Analogous thinking				0.715		0.65
TA28	Dialectical thinking				0.668		0.643
TA29	Intuition, inspiration and other illogical thinking				0.686		0.618
	Personality (P)						
P30	Curious			0.686			0.547

P31	Eager for knowledge			0.76			0.609
P32	Ambition			0.711			0.574
P33	Enterprising			0.711			0.578
P34	Confident			0.717			0.605
P35	Hardworking spirit			0.73			0.614
P36	Anti-frustration spirit			0.729			0.594
P37	Break away from convention and not be superstitious about authority			0.73			0.578
P38	Firm study spirit			0.726			0.563
P39	Rigorous and realistic spirit			0.701			0.585
	Humanistic Quality(HQ)						
HQ40	Correct world and life view		0.675				0.569
HQ41	Keeping pace with times		0.734				0.613
HQ42	Community of Shared Future for Mankind's Global View		0.69				0.598
HQ43	Friendly with integrity		0.661				0.58
HQ44	Responsible		0.717				0.596
HQ45	Patriotism and commitment		0.682				0.572
HQ46	Equality and freedom		0.694				0.618
HQ47	Fairness and justice		0.72				0.632
HQ48	Noble aesthetics		0.68				0.557
HQ49	Observe laws and disciplines		0.715				0.608
HQ50	Dedication, sympathy and service spirit		0.703				0.636
Eigenvalue		17.537	4.524	3.548	2.578	2.119	-
Explained Variance (%)		15.458	12.997	12.067	10.624	9.468	-
Cumulative Variance (%)		35.074	44.122	51.217	56.374	60.612	-
Notes. h2 Communalities.							

3) Confirmatory Factor Analysis

Table 5 shows the factor load tabled is above 0.6, indicating that the data has a good measurement relationship.

Table 5

The Results of Factor Load

			Unstd.estimate	S.E.	C.R.	P	Std.estimate
Competency	-->	Knowledge	1				0.661
Competency	-->	Skill	0.942	0.105	8.983	***	0.71
Competency	-->	Thinking Ability	1.143	0.115	9.976	***	0.831
Competency	-->	Humanistic Quality	1.041	0.111	9.421	***	0.752
Competency	-->	Personality	0.788	0.095	8.307	***	0.607
Knowledge	-->	K1	1				0.775
Knowledge	-->	K2	1.007	0.061	16.559	***	0.769
Knowledge	-->	K3	1.041	0.06	17.281	***	0.797

Knowledge	-->	K4	0.999	0.06	16.688	***	0.774
Knowledge	-->	K5	0.989	0.061	16.327	***	0.76
Knowledge	-->	K6	1.059	0.06	17.593	***	0.808
Knowledge	-->	K7	1	0.059	17.062	***	0.788
Skill	-->	S8	1				0.686
Skill	-->	S9	1.034	0.077	13.396	***	0.702
Skill	-->	S10	1.087	0.077	14.174	***	0.746
Skill	-->	S11	1.053	0.075	13.98	***	0.735
Skill	-->	S12	1.091	0.078	13.986	***	0.735
Skill	-->	S13	1.022	0.076	13.486	***	0.707
Skill	-->	S14	1.03	0.074	13.917	***	0.731
Skill	-->	S15	1.026	0.076	13.518	***	0.709
Skill	-->	S16	1.057	0.076	13.943	***	0.733
Skill	-->	S17	1.078	0.077	14.066	***	0.74
Skill	-->	S18	1.125	0.077	14.592	***	0.77
Skill	-->	S19	1.076	0.078	13.855	***	0.728
Skill	-->	S20	1.097	0.076	14.372	***	0.757
Thinking Ability	-->	TA21	1				0.757
Thinking Ability	-->	TA22	1.014	0.061	16.653	***	0.784
Thinking Ability	-->	TA23	1.028	0.062	16.466	***	0.776
Thinking Ability	-->	TA24	1.02	0.062	16.493	***	0.777
Thinking Ability	-->	TA25	1.021	0.061	16.769	***	0.788

Thinking Ability	-->	TA26	0.963	0.061	15.893	***	0.753
Thinking Ability	-->	TA27	1.018	0.063	16.158	***	0.763
Thinking Ability	-->	TA28	0.998	0.06	16.557	***	0.78
Thinking Ability	-->	TA29	0.979	0.061	15.935	***	0.754
Personality	-->	P30	1				0.705
Personality	-->	P31	1.039	0.074	14.037	***	0.726
Personality	-->	P32	1.064	0.076	14.054	***	0.727
Personality	-->	P33	1.052	0.074	14.175	***	0.734
Personality	-->	P34	1.094	0.075	14.51	***	0.751
Personality	-->	P35	1.121	0.077	14.558	***	0.754
Personality	-->	P36	1.112	0.078	14.167	***	0.733
Personality	-->	P37	1.066	0.077	13.909	***	0.719
Personality	-->	P38	1	0.073	13.67	***	0.707
Personality	-->	P39	1.107	0.078	14.204	***	0.735
Humanistic Quality	-->	HE40	1				0.722
Humanistic Quality	-->	HE41	0.968	0.065	14.928	***	0.745
Humanistic Quality	-->	HE42	1.027	0.068	14.994	***	0.748
Humanistic Quality	-->	HE43	1.008	0.069	14.661	***	0.732
Humanistic Quality	-->	HE44	1.05	0.071	14.745	***	0.736
Humanistic Quality	-->	HE45	1.004	0.069	14.552	***	0.726
Humanistic Quality	-->	HE46	1.075	0.07	15.369	***	0.766
Humanistic Quality	-->	HQ47	1.094	0.071	15.48	***	0.771

Humanistic Quality	-->	HQ48	1.008	0.071	14.296	***	0.714
Humanistic Quality	-->	HQ49	1.05	0.07	14.986	***	0.747
Humanistic Quality	-->	HQ50	1.138	0.073	15.563	***	0.775

Table 6 is the comprehensive weight of the items.The weight is calculated according to the above standardized factor load, and the calculation steps are as follow: firstly, calculate the weight of each dimension, the dimension factor load divided by the sum of the five dimension factor load is the weight of the dimension ; Secondly, calculate the specific gravity of the sub-dimension. Factor load of the sub-dimension divided by the sum of the factor load is the specific gravity; Thirdly, calculate the weight of each sub-dimension, and the weight is equal to the weight of the corresponding sub-dimension multiplied by the specific gravity. Form the table, the thinking ability and the personality have a slightly higher proportion, followed by skill and knowledge, and finally is the humanistic quality.

Table 6
The Results of Comprehensive Weight

Factor	Weight	Items	Weight	Comprehensive weight
Knowledge	18.56 %	K1	14.17 %	2.63%
		K2	14.06 %	2.61%
		K3	14.57 %	2.70%
		K4	14.15 %	2.63%
		K5	13.89 %	2.58%
		K6	14.77 %	2.74%
		K7	14.40 %	2.67%
Skill	19.94 %	S8	7.24%	1.44%
		S9	7.41%	1.48%
		S10	7.87%	1.57%
		S11	7.75%	1.55%
		S12	7.75%	1.55%
		S13	7.46%	1.49%
		S14	7.71%	1.54%
		S15	7.48%	1.49%
		S16	7.73%	1.54%
		S17	7.81%	1.56%

		S18	8.12%	1.62%
		S19	7.68%	1.53%
		S20	7.99%	1.59%
Thinking Ability	23.34 %	TA21	10.92 %	2.55%
		TA22	11.31 %	2.64%
		TA23	11.19 %	2.61%
		TA24	11.21 %	2.62%
		TA25	11.37 %	2.65%
		TA26	10.86 %	2.53%
		TA27	11.01 %	2.57%
		TA28	11.25 %	2.63%
		TA29	10.88 %	2.54%
Personality	21.12 %	P30	9.67%	2.04%
		P31	9.96%	2.10%
		P32	9.97%	2.11%
		P33	10.07 %	2.13%
		P34	10.30 %	2.18%
		P35	10.34 %	2.18%
		P36	10.05 %	2.12%
		P37	9.86%	2.08%
		P38	9.70%	2.05%
		P39	10.08 %	2.13%
Humanistic Quality	17.05 %	HQ40	8.82%	1.50%
		HQ41	9.11%	1.55%
		HQ42	9.14%	1.56%
		HQ43	8.95%	1.52%

		HQ44	9.00%	1.53%
		HQ45	8.87%	1.51%
		HQ46	9.36%	1.60%
		HQ47	9.42%	1.61%
		HQ48	8.73%	1.49%
		HQ49	9.13%	1.56%
		HQ50	9.47%	1.61%

Table 7 shows that the CMIN / DF <3, RMR and RMSEA <0.08, NFI, IFI, TLI and CFI are greater than 0.9, indicating that the model fit well.

Table 7
The Results of Model Fitting

Index	CMIN	F	P	CMIN/DF	RMR	RMSEA	GFI	AGFI	NFI	RFI	IFI	TLI	CFI
Criterion	-	-	>0.05	<3	<0.08	<0.08	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9
Value	1354.89	170	0.000	1.158	0.046	0.02	0.889	0.879	0.901	0.896	0.985	0.984	0.985

4) **Reliability of the ECM-SET**
Table 8 shows the reliability value of each variable is greater than 0.7, indicating the instruments has a high reliability.

Table 8
The Results of the Reliability

Constructs	Sub-constructs	CR	AVE	Cronbach´s α
Knowledge (K)	K1-K7	0.917	0.611	0.917
Skill (S)	S8-S20	0.937	0.529	0.936
Thinking Ability (TA)	TA21-TA29	0.929	0.593	0.929
Personality (P)	P30-P39	0.919	0.532	0.919
Humanistic Quality (HQ)	HQ40-HQ50	0.932	0.554	0.932

5) External Validity
Table 9 shows the AVE value in the above table is greater than 0.5, and the CR value is greater than 0.7, indicating that the data convergent validity is good. Table 13 shows the square root of AVE extraction of each variable is greater than the absolute value of the correlation coefficient between these variable and other variables, indicating that the data has good discriminatory validity.

Table 9
The Results of the Convergent Validity

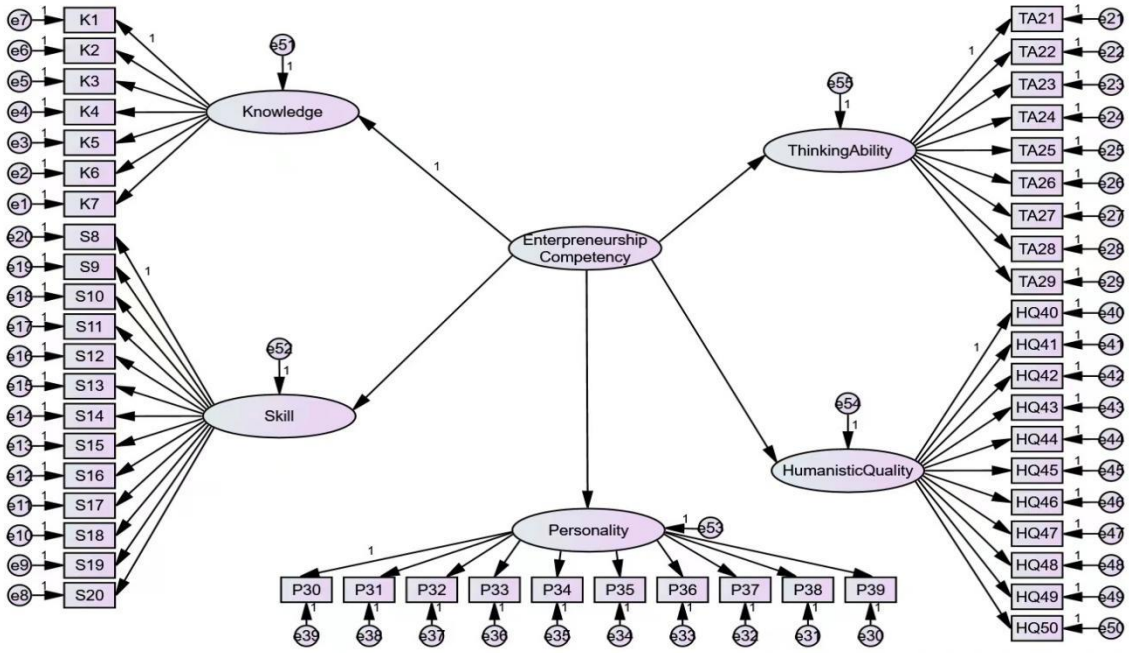
Constructs	Sub-constructs	CR	AVE	Cronbach´s α
Knowledge(k)	K1-K7	0.917	0.611	0.917
Skill (S)	S8-S20	0.937	0.529	0.936
Thinking Ability(TA)	TA21-TA29	0.929	0.593	0.929
Personality (P)	P30-P39	0.919	0.532	0.919
Humanistic Quality (HQ)	HQ40-HQ50	0.932	0.554	0.932

Table 10
The Results of the Discriminant Validity

Constructs	Knowledge	Skill	Thinking Ability	Personality	Humanistic Quality
Knowledge	0.782				
Skill	0.399	0.727			
Thinking Ability	0.491	0.612	0.770		
Personality	0.33	0.336	0.473	0.729	
Humanistic Quality	0.539	0.472	0.533	0.488	0.744

In summary, the above data analysis on ECM-SET confirms that the model has high applicability and recognition among political and legal students. The ECM is a consistent, valid, and robust framework enabling to evaluate the degree of development of entrepreneurship competencies in students. This model and the instrument contribute to reducing or avoiding the shortcomings of those for business majors concerning the cultivation and assessment in this educational stage, which fully embody the professional characteristics of students in higher vocational college of political science and law. Besides, its use will serve to assess and detect students' training needs and to find out the effect of cultivation on entrepreneurship competencies. The valid model answers the second question and provides a starting point or goal for the cultivation of entrepreneurship competency. Table 11 is the visual structure of the model based on the analysis.

Table 11
The Visual Structure of the Model Based on the Analysis



Discussion, Limitation, and Direction of Future Research

This section illustrates discussions to the research questions, limitations, and suggestions for future studies.

In terms of RQ1, there are initially five main constructs(entrepreneurship competency of knowledge, entrepreneurship competency of skill, entrepreneurship competency of thinking ability, entrepreneurship competency of personality and entrepreneurship competency of humanistic quality) with 34 sub constructs from systematic analysis of the literature review and documents analysis, while findings from interviews with educators and excellent performers contribute to the refinement of the constructs and sub-constructs of the entrepreneurship competencies by enriching the sub constructs from 34 to 50.

As for RQ2, findings especially from the weight analysis which answers the second question will be further summarized and illustrated. Form the data analysis, the thinking ability (23.34%) and the personality (21.12%) have a slightly higher proportion, followed by skill (19.94%) and knowledge (18.56%), and finally is the humanistic (17.05%). Each entrepreneurship competency construct in the model not only has its relatively independent function, but also the model is an organic one with mutual connection and mutual support. In the students' entrepreneurial practice, the model acts as elements in a complete system.

1. Entrepreneurship competency of knowledge. Entrepreneurship requires sufficient knowledge as support, as it is the basis and premise of entrepreneurship. Without broad knowledge foundation and reasonable knowledge structure, it is difficult to transform and reintegrate it based on the established knowledge system to form a new knowledge system conducive to entrepreneurship.

2. Entrepreneurship competency of thinking ability is the core closely related to entrepreneurship. It is a system composed of students' various ways of thinking by selecting breakthroughs and reconstructing the existing knowledge, experience and information in the process of entrepreneurship practice, and grasping the internal nature and laws of the development of things

with a new cognitive mode. Entrepreneurial thinking ability is a complex and advanced thinking process, which is the product of the organic combination of many kinds of thought pattern. Different thinking modes are mutually exclusive and complemented to each other. In different entrepreneurial thinking activities, they are always dominated by a certain thinking mode.

3. Entrepreneurship competency of personality is the concentrated embodiment of students' entrepreneurial spirit and entrepreneurial consciousness, and the source of power to promote the entrepreneurial process.

4. Entrepreneurship competency of skill is closely related to thinking ability, personality, and humanistic competency. In a sense, it can be said to be the externalization and embodiment of thinking ability, personality and humanistic competency, and the skills competency plays an important mechanism role in the process of realizing entrepreneurship.

5. Humanistic care and humanistic pursuit of the humanistic quality competency towards nature, social and human are the key to entrepreneurial success and sustainable development which has a very important impact on the formation and development of thinking ability, personality, and the improvement of one's overall quality. Good comprehensive quality of entrepreneurs is formed in the process of long-term accumulation of humanistic quality.

These five constructs complement each other and are closely related to form one's comprehensive entrepreneurial competency. The knowledge and skill belong to the superficially intellectual elements and are the foundation of the entrepreneurial competency system. Knowledge is the premise of skills, the richer the basic knowledge, the more conducive to the mastery of skills. Thinking ability, personality and humanistic quality belong to potentially non-intellectual elements. By internalizing the knowledge and skills acquired from the outside into one's body and mind, students can sublimate and form a diversified thinking mode, stable personality quality, and noble humanistic quality. On the one hand, these three can promote knowledge and skills to play a better role, and on the other hand, they contribute to the further expansion and enhancement of knowledge and skills. Among them, thinking ability is the core of entrepreneurship, personality is the driving force of entrepreneurship, and humanistic quality is the spiritual basis of entrepreneurship. The construction of the entrepreneurship competency model is to cultivate the political and legal students with the characteristics of broad knowledge, fine skills, active thinking mode and high humanistic quality in the entrepreneurial practice.

Taking the Onion model as the structure reference, according to the comprehensive weight of the framework, figure 2 constructs a clear visual picture of the model.

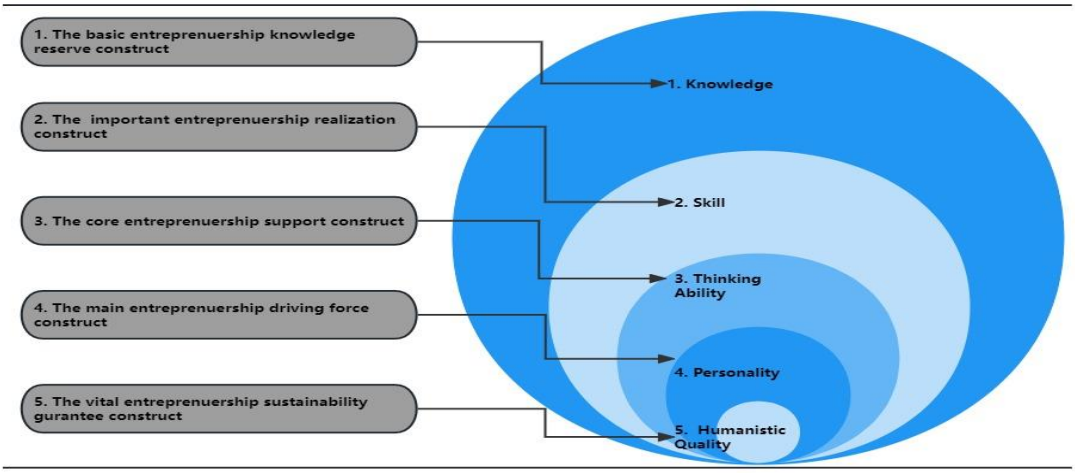


Figure 2. The Visual Structure of the Valid Entrepreneurship Competency Model Based on Onion Model

The conceptual ECM has been demonstrated, but this study also has some limitations which will surely indicate the direction of the future research. First, the data were collected from only Hebei higher vocational college of political science and law in Hebei province of China. The model mainly reflects the necessary entrepreneurship competency composition system of politics and law majors in higher vocational college of political science and law. The specific entrepreneurship competency differences and special requirements of politics and law majors in other political science and law institutions (such as undergraduate universities, other vocational colleges) are not considered. Thus, the results could not be generalized to all the politics and law majors in China due to exact contextual constraints. Second, the construction of this model mainly examines the role of individual entrepreneurial competency in entrepreneurship from the perspective of entrepreneurial subjects, while temporarily ignores the influence of non-subjective factors such as system and environment on entrepreneurship which is an inspiration for future study with multi factors. Third, it is the first time for the construction and validation of the model and it is not a universally valid instrument, more studies would be done in other vocational college of political science and law and in other level of institutions for politics and law majors. Fourth, as the sex difference on entrepreneurship competency has not been analyzed in the study of the reliability and validity, research in this sense ought to be carried out in the future study.

Conclusion

The results of the study indicate that the Entrepreneurship Competency model (ECM) for politics and law majors in higher vocational college of political science and law has good properties. Centered on the construction and the validation of the entrepreneurship competency, the study aims to make up for the fact that there is not a set of entrepreneurial competency cultivation model for the politics and law majors in line with the characteristics of higher vocational colleges of political science and law. It can be seen from the entrepreneurial competency model that students should have a complete entrepreneurial competency system such as entrepreneurial knowledge, entrepreneurial skills, entrepreneurial thinking ability, entrepreneurial personality, and entrepreneurial humanistic quality. Based on this, the cultivation of entrepreneurial talents should adapt to the requirements of its competency system, and in the cultivation practice not only pay attention to necessary knowledge system building and entrepreneurial skills training, but also consciously to strengthening the thinking ability, the shaping of the entrepreneurial personality and the promotion of entrepreneurial humanities. It is also useful for future research and educators related with the training and teaching of entrepreneurship competency within the political science and law colleges, as well as for the design and development of entrepreneurship practices by exploring new pathways of entrepreneurship competency cultivation.

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