The Role of Civic and Political Education Integrated into Innovation and Entrepreneurship Education on the Cultivation of Social Responsibility

Baozhen Li
Wenzhou University of Technology, Wenzhou 325035, Zhejiang, China
gaojiaoboyuan4904@126.com

Abstract: Innovation and entrepreneurship education plays an important role in the employment and entrepreneurship of graduates, but there are real problems such as neglecting social practice activities and a weak sense of social responsibility among students. In this paper, based on analyzing the role of Civic Education integrated into Innovation Education and the cultivation of sense of social responsibility by dual-creation education, ten universities in S province are selected as the research object, and the structural equation model is constructed through the research hypotheses. Reliability analysis was carried out based on the data obtained from the questionnaire, and the fitness of the research hypothesized model was examined using AMOS software. The degree of influence of entrepreneurship education on social responsibility was explored based on the path coefficients, and the mediating effect of political education between innovation and entrepreneurship education and social responsibility was investigated. The path coefficients of Civic and Political Education on the sense of social responsibility were 0.287 and 0.349 ($P<0.01$). The synergistic integration and development of Political Education can help to significantly improve students' sense of social responsibility and cultivate high quality and high moral standard social talents.
Keywords: Structural Equation Modeling; Innovation and Entrepreneurship Education; Civic Education; Sense of Social Responsibility

1. INTRODUCTION

Innovation and entrepreneurship education and ideological education are two important components in the field of higher education (Qin, 2024; Wang et al., 2018; You, 2023; Zhang & Zhao, 2021). While the ideological education focuses more on the ideological and moral education of students, educating and guiding them in terms of values, and shaping a positive outlook on life, values and worldview (Chang et al., 2017; Lian, 2023; Yang et al., 2024). As an important position for cultivating talents, universities bear great responsibility and mission in today's society. As two important components of higher education, innovation education and civic education play a crucial role in cultivating students' innovation ability, practical ability and values (Ibrahim et al., 2017; Mu et al., 2020; Wei, 2022; Zhong & Zhou,

2019). However, for a long time, innovation education and civic education have often been separated into independent courses or activities, lacking effective integration and interaction. This situation not only affects the overall development of students, but also restricts the quality and level of college education (Feng, 2021; He, 2021; Jin, 2022; Song et al., 2015). In the current social background of rapid development and fierce competition, universities must adapt to the needs of the times and actively explore the deep integration path (Wang, 2023; Wei, 2023). Only by organically combining the two and forming an educational model that promotes and complements each other, can we cultivate excellent talents with innovative spirit, practical ability and social responsibility, and make greater contributions to social development and national construction (Dong, 2022; Wu, 2021; Yongliang, 2023). The article chooses ten universities in S province as the research object, quantifies the innovation and entrepreneurship education from five dimensions: professional knowledge, general knowledge, entrepreneurial awareness, entrepreneurial motivation, innovative thinking, and constructs a questionnaire by combining the quantitative indexes of Civic Education and Sense of Social Responsibility. The structural equation model was constructed based on the variables of the questionnaire, and the research data were obtained through the questionnaire, and the role of the integration of Civic Education into Entrepreneurship Education on the cultivation of social responsibility was explored by combining the data of the questionnaire, and the optimization path of the cultivation of the sense of social responsibility was proposed.

2. ANALYSIS OF RELEVANT CONCEPTS AND THEORIES

Innovation and entrepreneurship education is the core constituent of the strategy of building an innovative country, and for universities, entrepreneurship education should be taken as a major subject of comprehensive reform and a major opportunity to comprehensively improve the quality of talent cultivation, and be comprehensively promoted in the teaching of various majors. In recent years, universities have vigorously promoted innovation and entrepreneurship education, and have made positive progress, while there are also some outstanding problems that should not be underestimated. First, entrepreneurship education attaches importance to the teaching of theoretical knowledge

and skills, and is light on social practice activities. Secondly, some students participate in innovation and entrepreneurship competitions in the pursuit of fame and honor. Third, some students' entrepreneurial activities pursue personal wealth, and there exists the phenomenon of heavy utilitarianism and light social responsibility.

2.1 Relevant Concepts

2.1.1 Innovative Entrepreneurship Education

Innovation and entrepreneurship education is an educational activity that creates great new endeavors, and it is an educational and pedagogical practice that creates new positions. It is a comprehensive education that mainly involves the formation of a culture of dual entrepreneurship within an organization and the teaching of relevant theoretical knowledge to students. In this study, we believe that the innovation education activities carried out belong to "intrapreneurship" education. Job entrepreneurship-oriented innovation and entrepreneurship education trains independent entrepreneurs and job entrepreneurs, focuses on the integration of innovation and entrepreneurship awareness into the process of professional talent training, and promotes students' understanding of innovation and entrepreneurship knowledge and experience of entrepreneurial activities.

Thus, students can master the knowledge and skills required for their future jobs or careers, as well as possess the spirit of innovation and entrepreneurial ability, and then be able to utilize organizational resources in the workplace to carry out value-enhancing and profit-creating activities (Mogaji & Raimi, 2025). As a result, the entrepreneurship education referred to in this paper refers to an education mode that focuses on integrating innovation and entrepreneurship awareness, understanding innovation and entrepreneurship knowledge, and experiencing entrepreneurial activities in the process of professional talent cultivation, based on the level and type characteristics of higher vocational colleges and universities, as well as on utilizing the organizational resources for value enhancement and profit creation activities in the future workplaces, based on the objectives of talent training and the mode of talent cultivation. In short, the entrepreneurship education carried out by universities belongs to a kind of educational activities to cultivate intrapreneurs, which means that in an existing organization, individuals and teams make use of their own skills and the organization's resources to carry out new business

creation or a variety of innovative activities to make the organization profitable.

2.1.2 Ideological and Political Education

Ideological and political education refers to the social practical activities in which educators use the political concepts, ideological views, and moral norms of a certain society or class to exert purposeful, planned, and organized influences and sensitization on the masses, so as to make the masses form ideological and moral virtues in line with the needs of their own class [23](Zhang, 2024). The main content of ideological education involves all aspects of the field of ideological shaping, both theoretical content and practical circumstances, both historical summary and future development, including ideological and moral education, political education, "world view, outlook on life, values" education, mental health education, legal and disciplinary education and so on. It is also enriched and supplemented according to the changes of the times.

2.1.3 Sense of Social Responsibility

The sense of social responsibility is a choice of behavior located in the deep inner layer, in line with the social needs, the standards of moral norms, with the goal of realizing personal and social values, actively and positively undertake and fulfill obligations, and be reflected in the social public sphere. Students' sense of social responsibility is composed of four elements: responsibility cognition, responsibility emotion, responsibility will and responsibility behavior [24](Kong et al., 2025). As an ideology of social responsibility, it is inevitable that it needs to go through the process from cognition to internalization of emotion, the formation of will, and then externalized into the choice of responsible behavior, this process is also the formation of students' sense of social responsibility, which has to go through the four internal basic links of ear, emotion, brain, and behavior.

Responsibility cognition is the precursor of responsibility behavior, the first origin of the responsibility process, and the key to the generation of students' sense of social responsibility. Responsibility cognition is not necessarily transformed into responsibility behavior, the formation of responsibility quality, responsibility cognition can only be transformed into a strong sense of responsibility to give birth to responsibility behavior, responsibility emotion is the key factor in the generation of students' sense

of social responsibility, the bursting of responsibility emotion is the generation of students' sense of social responsibility into the generation of the key links and into the stage of emotion. The four elements are interpenetrating, constraining and promoting each other. The formation and development of students' sense of social responsibility involves the contradictory change movement of the four elements of knowledge, emotion, will and behavior from imbalance to balance and from maladaptation to adaptation.

2.2 Theoretical Analysis

2.2.1 Integration of Civic and Political Education into Dual Creation Education

Ideological and political education emphasizes the cultivation of students' moral qualities, which can provide moral guidelines for innovation and entrepreneurship activities, urge students to adhere to the moral bottom line in innovation and entrepreneurship activities, abide by the professional ethics and market rules in the process of innovation and entrepreneurship, and conduct business in good faith, which is the key to win the recognition of the market and society. Ideological education focuses on cultivating students' legal awareness and the concept of the rule of law, which can guide students to consciously abide by laws and regulations in the process of innovation and entrepreneurship, safeguard their legitimate rights and interests, and reduce legal risks. Ideological education focuses on the cultivation of collectivist spirit, which can guide students to learn cooperation and mutual assistance in the process of innovation and entrepreneurship, and cultivate the spirit of teamwork. Ideological education also guides students to understand China's national conditions and international situation, cultivates students' international vision and strategic thinking, and guides students to better grasp market trends and development opportunities in the process of innovation and entrepreneurship.

2.2.2 Dual-Creation Education Fosters a Sense of Social Responsibility

(1) Innovation and entrepreneurship education expands the practical way of social responsibility of students. In the practice of innovation and entrepreneurship education, universities organize students to participate in innovation and entrepreneurship competitions, guide students to participate in the whole process of entrepreneurship in simulation, serve

the development of local economic construction, enhance the sense of social service, and strengthen the power of action to contribute to society. By building practice platforms such as university maker space, incubation base and dual-creation center, they provide students with project incubation and practical training opportunities to enrich students' innovation and entrepreneurship experience, and in this series of processes improve students' ability to independently find out the problems, think about the problems, solve the problems, cope with the frustrations and challenges, and their sense of teamwork. More importantly, students clarify their goals and strengthen their sense of social responsibility through innovation and entrepreneurship practice.

(2) Innovation and entrepreneurship education improves the process of cultivating students' sense of social responsibility. Students are guided to establish entrepreneurial values and spiritual concepts such as hard work, innovation, dedication, and courage to take responsibility, which can strengthen the sense of social responsibility of students according to the values of social responsibility of students in the new era. Deepening the experience and practice of social responsibility in practice, forming a positive interaction with the conceptual cognition in the mind, and better promoting the evolution of inner cognition into the externalized behavior of responsibility.

2.2.3 Mechanisms of Influence

Civic and political education is an important means to cultivate students' socialist core values, which helps them establish a worldview, outlook on life and values that are adapted to the needs of the times, and at the same time cultivate their sense of social responsibility and mission. On the one hand, Civic and political education is integrated into dual-creation education to stimulate students' innovative consciousness and entrepreneurial spirit, and at the same time cultivate their independent learning ability and stimulate their future development potential. On the other hand, through Civic and Political Education, students are guided to establish correct values and cultivate their sense of social responsibility and mission. The organic integration of dual-creation education and Political Education aims to cultivate graduates with innovative spirit, entrepreneurial ability and social responsibility.

Dual-creation education and Civic Education complement each other and jointly promote the comprehensive quality of students. Dual-creation

education aims to universities' students' ability of innovative thinking and practical operation, which are rooted in correct values and morals. Civic and political education helps students establish correct values, morality and sense of social responsibility, which in turn are the spiritual pillars they need in dual-venture activities. Integrating Civic Education into Innovation and Entrepreneurship Education, based on the mediating influence mechanism of Political Education between Entrepreneurship Education and Social Responsibility, together help to cultivate future entrepreneurs who have both professional skills and innovative spirit, as well as a sense of social responsibility and moral qualities.

3. CONSTRUCTION OF THE RESEARCH MODEL

Civic and political education and dual-creation education are highly correlated in terms of educational requirements, with civic and political education being "invisible education" and dual-creation education being "visible education". Civic and political education focuses on the ideological leadership and emotional education of students, while dual-creation education emphasizes the ability cultivation and professional education.

3.1 Structural Equation Modeling

3.1.1 Structural Equation Modeling

The measurement model studies the relationship between a latent variable and its multiple observed variables, and the measurement model is expressed as (Drton et al., 2025):

$$x = \Lambda_x \xi + \delta \tag{1}$$

$$y = \Lambda_y \eta + \varepsilon \tag{2}$$

Structural modeling studies the relationship between latent variables and latent variables, and the structural model equation is formulated as follows:

$$\eta = B\eta + \Gamma\xi + \zeta \tag{3}$$

3.1.2 Modeling Steps

Structural equation modeling can study not only explicit variables that are directly observable, but also latent variables that are not directly observable. It can also deal with multiple dependent variables at the same time, and it can clearly and intuitively show the relationship between variables through path diagrams. Not only the direct relationship between variables can be studied, but also the indirect relationship between variables

can be studied (Gudergan et al., 2025). Figure 1 shows the construction steps of structural equation modeling, which mainly contains five processes: model setting, model identification, parameter estimation, goodness-of-fit evaluation and model correction.

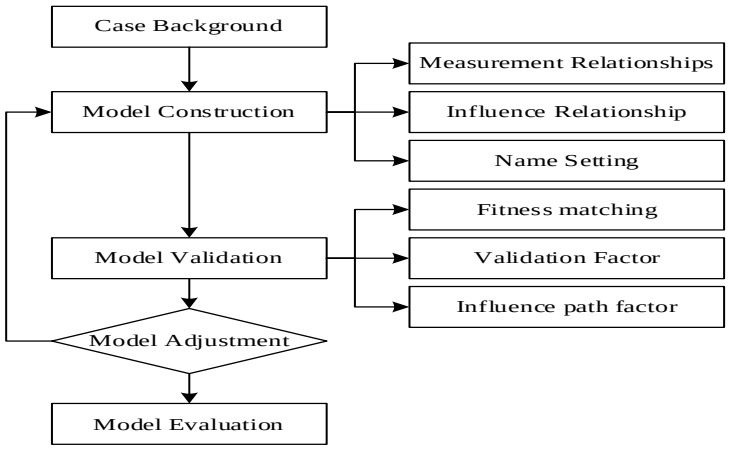

Figure 1: Construction Steps of the Structural Equation Model

(1) Model setting. Organize and summarize the literature to initially establish hypotheses and determine the relationship between variables. (2) Model identification. That is, to test the hypothesis model can be recognized, such as can be identified, then proceed to the next step, such as can not be identified need to return to the previous step to reset the model. (3) Parameter estimation. Commonly used method of great likelihood, unweighted least squares, generalized least squares and so on. (4) Goodness-of-fit evaluation. Evaluate the fit between the hypothetical model and the actual data, generally including absolute fit index, value-added fit index and parsimonious fit index. (5) Model correction. Correction of paths (deletion of insignificant influence paths, deletion of unreasonable paths, restriction of paths, etc.), or correction of the relationship between certain variables in the model, which can be done by restricting certain structural parameters, through the modification of the index (MI), and other methods of correction of the model.

3.2 Research Modeling

3.2.1 Selection of Research Variables

In order to analyze the role of the integration of Civic Education into Innovation and Entrepreneurship Education on the cultivation of social responsibility, this paper takes Entrepreneurship Education as the independent variable, Civic Education as the mediator variable, and Social Responsibility as the dependent variable for the construction of the

research model. Regarding innovation and entrepreneurship education, this paper mainly quantifies the five dimensions of professional knowledge, general knowledge, entrepreneurial awareness, entrepreneurial motivation and innovative thinking. Civic education is mainly quantified from the four dimensions of teaching method, teaching content, teaching mode and teaching effect, while social responsibility is quantified by responsibility cognition, responsibility emotion, responsibility will and responsibility behavior. Based on the above analysis, this paper designs a questionnaire to obtain the corresponding research data, and the content of the questionnaire is shown in Table 1.

Table 1: Questionnaire content

Variable	Latent Variable	Code
Professional Knowledge	Master theoretical knowledge	ZY1
	Master expertise	ZY2
	Focus on professional development	ZY3
	The professional is entrepreneurship direction	ZY4
General Course Knowledge	Understand the laws and regulations	TS1
	Familiar with start-up supporting services	TS2
	Identify the channels for fundraising	TS3
	Clear the market demand	TS4
Entrepreneurial Consciousness	Realize the hard work of entrepreneurship	YS1
	Understand the risk of entrepreneurship	YS2
	Identify the ability to start a business	YS3
	Know the right career	YS4
Entrepreneurial Motivation	Entrepreneurial potential	DJ1
	Entrepreneurship creates wealth	DJ2
	Knowledge of entrepreneurship	DJ3
	Entrepreneurial achievement	DJ4
Creative Thinking	Novel entrepreneurial constitution	SW1
	Break the routine	SW2
	The constitution of the modified item	SW3
	The entrepreneurial process is strange	SW4
Thinking Of Education	Teaching method	SZ1
	Teaching content	SZ2
	Teaching model	SZ3
	Teaching effect	SZ4
Social Responsibility	Responsibility cognition	ZRG1
	Responsibility emotion	ZRG2
	Will of responsibility	ZRG3
	Liability behavior	ZRG4

This paper designed a questionnaire containing the above 28 items, and the questionnaire was compiled using a Likert 5-level rating scale, with 5

levels, namely "5, 4, 3, 2, and 1" representing "yes, somewhat agree, uncertain, somewhat non-compliant, and non-compliant", respectively. Ten universities were selected in Province S and questionnaires were distributed to their undergraduate students. A total of 800 questionnaires were distributed, 782 were recovered, with a recovery rate of 97.75%, and 768 valid questionnaires were recovered, with an effective rate of 98.21%.

3.2.2 Hypothetical Modeling

Based on the previous theoretical analysis, this paper proposes the following hypotheses:

H1: Specialized knowledge positively affects innovation and entrepreneurship education.

H2: General knowledge positively affects innovation and entrepreneurship education.

H3: Entrepreneurial awareness positively affects innovation and entrepreneurship education.

H4: Entrepreneurial motivation positively affects innovation and entrepreneurship education.

H5: Innovative thinking positively influences innovation and entrepreneurship education.

H6: Innovation and entrepreneurship education positively affects ideological education.

H7: Innovation and entrepreneurship education positively affects social responsibility.

H8: Civic education positively affects social responsibility.

H9: Civic education mediates between innovation and entrepreneurship education and social responsibility.

Based on the above analysis, it is concluded that the role of entrepreneurship education in cultivating the sense of social responsibility includes eight important categories. Through the typical relationship and correlation between the categories, it is obtained that innovation and entrepreneurship education is influenced by 5 elements, such as professional knowledge, general knowledge, entrepreneurial awareness, entrepreneurial motivation, and innovative thinking, which not only has a direct effect on the sense of social responsibility, but also indirectly affects the sense of social responsibility through the Civic Education. Therefore, considering the actual situation of the research in this paper, the theoretical model of the cultivation of sense of social responsibility by bi-innovation and entrepreneurship education is obtained based on the SEM model as shown in Figure 2.

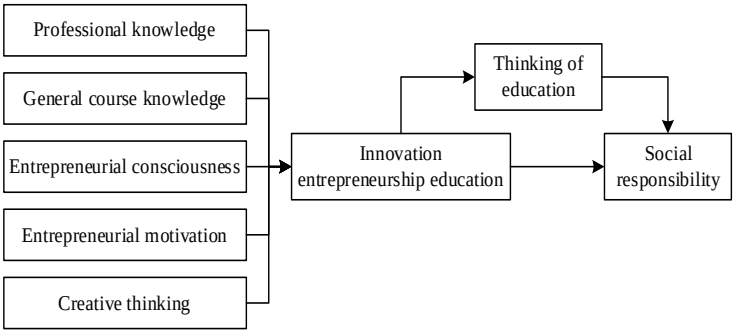

Figure 2: Double Creative Education Develops Social Responsibility

4. EMPIRICAL EVIDENCE OF BICULTURAL EDUCATION IN FOSTERING SOCIAL RESPONSIBILITY

Focusing on the organic combination of ideological education and innovation and entrepreneurship education, we build a systematic and continuous path of nurturing, and encourage students to use multidisciplinary theoretical knowledge to solve social problems. In turn, it cultivates entrepreneurial spirit and social responsibility. Use scenario simulation, social problem research and other ways of teaching, combined with market demand to guide students to think about the relationship between morality and responsibility in the practice of innovation.

4.1 Data Reliability Test

4.1.1 Data Confidence Analysis

In this study, IBM SPSS Statistics software was used to analyze the reliability of the research data, and most scholars now use Cronbach's alpha coefficient to conduct the reliability test. The reliability test (reflects whether the questionnaire measurement results are reliable and stable. The internal consistency reliability test does not need to divide the measurement items or measurement indexes into two parts, but directly utilizes the degree of connection of the measurement items for reliability prediction. General scholars usually use Cronbach's alpha coefficient for internal consistency (taking the value between 0 and 1). Specifically, a value of Cronbach's alpha less than 0.65 indicates poor internal consistency, meaning that the items or questions in the measurement instrument do not reliably measure the same underlying constructs, and a value between 0.65 and 0.75 indicates moderate internal consistency. Although it is an improvement over poorer consistency, it is still considered relatively low. A value between 0.75 and 0.85 is generally considered acceptable for most research purposes. It indicates fairly good internal consistency, meaning

that the items in the measurement instrument measure the same constructs to a more satisfactory degree. Values above 0.85 indicate good internal consistency, which suggests that the items are consistent in reliably measuring the underlying constructs and can be reliably used for research purposes. Meanwhile, in addition to the Cronbach's alpha coefficient, CITC was supplemented in this paper as a reliability test, and if the CITC is greater than 0.35, which indicates that the values of both the Cronbach's alpha coefficient and the CITC are within the standardized range of values, the questionnaire data are of good reliability. The results of the reliability test of the questionnaire data are shown in Table 2, where THBR, THBV, and MC denote the mean of the scale with items deleted, the variance of the scale with items deleted, and the square of the multiple correlation, respectively. The overall Cronbach's α coefficient value of this questionnaire is 0.946, which is much larger than 0.75, indicating that the overall reliability of this questionnaire is good. From the table, it can be seen that the mean and variance of the scale of items have been deleted are between [134.05,137.92], [323.77,332.03], respectively, and CITC values of this paper are all greater than 0.4, and a number of CITC values are greater than 0.6, which indicates that CITC values are all within the standard range. Therefore, it can be seen that the Cronbach's alpha coefficient and CITC values in this paper are within the standard range, indicating that the reliability of the data from this questionnaire is good enough to proceed to the next step of analysis.

Table 2(a): Questionnaire Data Reliability Test Results

Code	THBR	THBV	CITC	MC	Item Deleted Cronbach's α
ZY1	134.53	330.37	0.642	0.499	0.934
ZY2	134.51	332.03	0.417	0.743	0.918
ZY3	137.24	323.77	0.624	0.618	0.932
ZY4	136.42	328.78	0.433	0.521	0.913
TS1	134.05	327.87	0.596	0.742	0.925
TS2	134.15	323.89	0.454	0.613	0.947
TS3	134.55	331.72	0.543	0.545	0.922
TS4	134.49	324.33	0.638	0.647	0.921
YS1	137.55	329.14	0.615	0.409	0.939
YS2	134.77	329.22	0.585	0.785	0.908
YS3	136.82	330.72	0.452	0.439	0.927
YS4	134.57	325.65	0.608	0.608	0.944
DJ1	137.16	326.03	0.454	0.626	0.902
DJ2	136.45	324.46	0.411	0.497	0.913
DJ3	135.46	325.82	0.555	0.541	0.929

Table 2(b): Questionnaire Data Reliability Test Results

Code	THBR	THBV	CITC	MC	Item Deleted Cronbach's α
DJ4	135.32	324.53	0.423	0.473	0.936
SW1	137.38	328.55	0.619	0.792	0.907
SW2	134.51	331.63	0.471	0.424	0.939
SW3	135.67	325.41	0.498	0.571	0.917
SW4	136.94	325.01	0.616	0.683	0.933
SZ1	137.75	324.75	0.592	0.645	0.928
SZ2	137.92	325.55	0.439	0.494	0.917
SZ3	137.23	324.74	0.617	0.666	0.924
SZ4	135.58	329.22	0.452	0.451	0.903
ZRG1	135.63	331.15	0.436	0.563	0.941
ZRG2	134.05	327.76	0.591	0.495	0.938
ZRG3	134.95	327.99	0.628	0.517	0.912
ZRG4	134.68	329.35	0.454	0.408	0.929

4.1.2 Data Validity Analysis

The 28 observed variables of the questionnaire were subjected to exploratory factor analysis using SPSS software, and the results of KMO and Bartlett's test were obtained as shown in Table 3. From the test results, it can be seen that the KMO of the questionnaire as a whole = 0.958 > 0.8, and the KMO value of each dimension is higher than 0.9.

Table 3: KMO and Bartlett's test

Variable	KMO	Bartlett Test		
		Approximate Card	DF	Sig.(2-Tailed)
Professional Knowledge	0.943	304.65	15	0.005
General Course Knowledge	0.935	311.32	36	0.037
Entrepreneurial Consciousness	0.927	343.27	28	0.001
Entrepreneurial Motivation	0.941	336.74	44	0.006
Creative Thinking	0.926	323.63	23	0.024
Thinking of Education	0.913	342.82	31	0.008
Social Responsibility	0.928	306.41	22	0.015
Total Scale	0.958	23165.48	682	0.002

The SPSS software was used to analyze the scores of 28 observed variables obtained from the questionnaire, the parameters were set during the analysis, the "principal component" was extracted and "the eigenvalue is greater than 1" was checked, the "gravel map" was checked, the rotation method of the factor load was "maximum variance method", the output coefficient display format was set to "sorted by size", and small coefficient

of the absolute value <0.5 was prohibited", and the total variance of the obtained factors was explained as shown in Table 4. As can be seen from the table, the 28 observed indicators of the questionnaire were extracted into 7 common factors with eigenvalues greater than 1, and the cumulative explained variance accounted for 92.70% of the total variance, indicating that the 7 extracted common factors can reflect 92.70% of the information of the 28 observed indicators, which is much larger than 50% of the information of the 28 observed indicators.

Table 4: Variance Interpretation of Factor

-	**Initial Eigenvalue**			**Extracting Load Squared**			**Rotational Load Squared**		
	Total	PV	TPV	Total	PV	TPV	Total	PV	TPV
1	19.326	59.81%	59.81%	19.326	59.81%	59.81%	4.751	17.31%	17.31%
2	3.153	9.76%	69.57%	3.153	9.76%	69.57%	4.516	15.08%	32.39%
3	1.978	6.12%	75.69%	1.978	6.12%	75.69%	4.483	14.72%	47.11%
4	1.721	5.33%	81.02%	1.721	5.33%	81.02%	4.305	13.53%	60.64%
5	1.426	4.41%	85.43%	1.426	4.41%	85.43%	3.817	11.94%	72.58%
6	1.285	3.98%	89.41%	1.285	3.98%	89.41%	3.742	11.45%	84.03%
7	1.064	3.29%	92.70%	1.064	3.29%	92.70%	2.651	8.67%	92.70%
8	0.981	3.04%							
9	0.672	2.08%							
10	0.431	1.33%							
11	0.208	0.64%							
12	0.069	0.21%							

The rotated factor loading matrix is shown in Table 5. Each observed indicator measuring the same latitude (latent variable) has a factor loading greater than 0.75 in its corresponding dimension and is greater than the factor loading of the observed indicator in other dimensions (i.e., less than 0.5). Taken together, this indicates that the questionnaire can pass the structural validity test, i.e., the questionnaire has good structural validity.

Table 5: Rotational Factor Load Matrix

	Rotational Composition Matrix						
Variable	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**	**Factor 6**	**Factor 7**
ZY1	0.879	0.293	0.527	0.334	0.432	0.546	0.435
ZY2	0.877	0.369	0.398	0.302	0.391	0.544	0.301
ZY3	0.882	0.501	0.301	0.319	0.448	0.312	0.493
ZY4	0.945	0.535	0.444	0.351	0.453	0.493	0.395
TS1	0.415	0.868	0.353	0.263	0.547	0.357	0.441
TS2	0.291	0.947	0.488	0.459	0.326	0.395	0.543
TS3	0.515	0.925	0.444	0.502	0.395	0.379	0.318
TS4	0.353	0.898	0.275	0.441	0.351	0.463	0.415
YS1	0.471	0.514	0.875	0.368	0.296	0.285	0.374
YS2	0.537	0.372	0.864	0.527	0.419	0.311	0.361
YS3	0.493	0.446	0.875	0.441	0.506	0.384	0.506
YS4	0.509	0.544	0.901	0.422	0.418	0.357	0.533
DJ1	0.314	0.525	0.277	0.928	0.442	0.405	0.382
DJ2	0.479	0.393	0.486	0.872	0.535	0.293	0.451
DJ3	0.319	0.398	0.509	0.925	0.263	0.549	0.445
DJ4	0.387	0.352	0.538	0.887	0.381	0.401	0.358
SW1	0.253	0.317	0.322	0.293	0.853	0.318	0.332
SW2	0.515	0.489	0.261	0.455	0.869	0.462	0.354
SW3	0.509	0.458	0.389	0.348	0.901	0.549	0.448
SW4	0.294	0.404	0.367	0.366	0.868	0.456	0.363
SZ1	0.412	0.503	0.432	0.327	0.477	0.937	0.446
SZ2	0.405	0.315	0.503	0.372	0.343	0.923	0.382
SZ3	0.264	0.367	0.514	0.451	0.322	0.893	0.371
SZ4	0.433	0.212	0.465	0.282	0.264	0.889	0.437
ZRG1	0.291	0.387	0.511	0.521	0.376	0.384	0.862
ZRG2	0.419	0.452	0.378	0.539	0.491	0.379	0.941
ZRG3	0.357	0.296	0.385	0.546	0.479	0.282	0.853
ZRG4	0.361	0.367	0.521	0.398	0.515	0.347	0.866

4.2 Empirical Testing of the Research Model

4.2.1 Model Fit Test

The commonly used indicators for the fit effect test include parsimonious fit indicators, absolute fit indicators and relative fit indicators. In order to accurately reflect the fitting effect, this paper adopts the above three types of overall fit indicators totaling 10 statistical test quantities, through the View text-Output-Model Fit step operation, to obtain the measurement model fit test results shown in Table 6. As can be seen from the table, the model's parsimony fit index CMIN/DF value is 2.649, the absolute fit index RMSEA value is 0.085, which is in a more reasonable stage, and the values of relative fit indexes (NFI, IFI, and CFI)

are 0.908, 0.923, and 0.914, respectively, all of which are greater than the reference standard of 0.9, and the results of which are all more appropriate. It indicates that the measurement model fitting results are more satisfactory for subsequent path analysis.

Table 6: Measurement Model Fitting Test Results

Type	Index	Reference Standard	Test Result	Suitability
Contracted Fitting Index	CMIN/DF	1.5~3.5	2.649	YES
	PNFI	>0.55	0.806	YES
	PGFI	>0.55	0.715	YES
Absolute Fitting Index	X^2	The smaller the better	532.19	YES
	RMSEA	Good match (<0.05), Reasonable adjustment (<0.09)	0.085	More Reasonable
	GFI	>0.90	0.889	Proximity Standard
	AGFI	>0.90	0.915	YES
Relative Fitting Index	NFI	>0.90	0.908	YES
	IFI	>0.90	0.923	YES
	CFI	>0.90	0.914	YES

4.2.2 Path Analysis Test

The AMOS software is used as the basis for the research hypothesis model constructed in the previous section, and the structural equation modeling test is carried out through the questionnaire data. The test results of the model and the path coefficients are shown in Figure 3 and Table 7, respectively. Based on the calculation results of the path coefficients of the model, professional knowledge, general knowledge, entrepreneurial awareness, entrepreneurial motivation, and innovative thinking have a significant positive impact on innovation and entrepreneurship education, with path coefficients of 0.416, 0.241, 0.389, 0.472, and 0.334, respectively, and the hypotheses H1~H5 are verified. The path influence coefficient of Civic and political education on entrepreneurship education is 0.313, and the integration of Civic and political education will promote the development of innovation and entrepreneurship education, and H6 is verified. Civic and political education will significantly enhance students' moral consciousness and social responsibility, and its path influence coefficient is 0.287, and entrepreneurship education can enhance the efficiency of students' social responsibility, and its path influence coefficient is 0.349, and H7 and H8 can be verified. As a result, the integration of innovation education into the ideological education carried out by universities can significantly improve the students' sense of social

responsibility and better cultivate high-quality talents with high moral literacy and a strong sense of social responsibility.

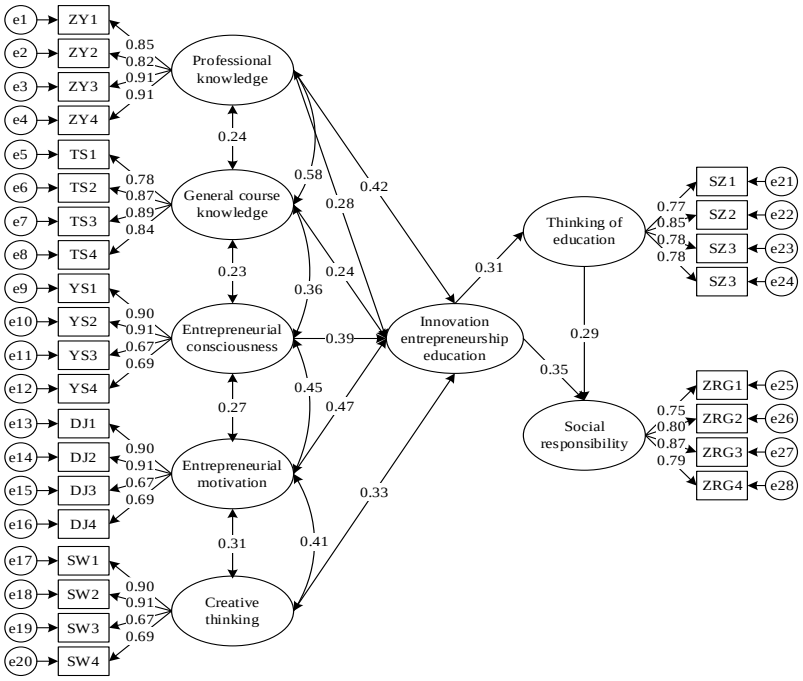

Figure 3: Test results of the model

Table 7: The Path Coefficient of the Model

Path	Estimate	S.E.	C.R.	P
Innovation Entrepreneurship Education Professional Knowledge	0.416	0.084	2.817	0.012
Innovation Entrepreneurship Education General Course Knowledge	0.241	0.072	3.265	0.007
Innovation Entrepreneurship Education Entrepreneurial Consciousness	0.389	0.059	2.664	0.026
Innovation Entrepreneurship Education Entrepreneurial Motivation	0.472	0.048	3.185	0.015
Innovation Entrepreneurship Education Creative Thinking	0.334	0.056	2.714	0.001
Thinking of Education Innovation Entrepreneurship Education	0.313	0.051	2.334	0.000
Social Responsibility Thinking of Education	0.287	0.057	2.538	0.003
Social Responsibility Innovation Entrepreneurship Education	0.349	0.038	2.167	0.002

4.2.3 Mediated Effects Test

In order to verify the mediating effect of civic and political education between innovation and entrepreneurship education and social responsibility, this paper carries out the mediating effect analysis based on the AMOS test results of structural equation modeling. Table 8 shows the

test results of the mediating effect. a and b represent the effect values respectively, c represents the total effect, and c' represents the direct effect. Under the premise of P<0.01, the total effect of innovation education on social responsibility is 0.349, and the coefficient of entrepreneurship education on civic education is 0.313, which passes the significance test (P<0.01). The coefficient of civic education on social responsibility is 0.287, which passes the significance test (P<0.01). The total effect of entrepreneurship education on the sense of social responsibility (considering the mediating effect) is 0.535, which passes the significance test (P<0.01). In the 95% confidence interval of the mediating effect Bootstrap, its lower and upper limits are 0.135 and 0.261, respectively, neither of which contains 0.

Table 8: The Test Result of the Intermediary Effect

Hypothesize	**Social Responsibility Thinking of Education Innovation Entrepreneurship Education**
Total Effect (C)	0.535***
A	0.313
B	0.287
Indirect Effect	0.242
95% Lower	0.135
Ci Upper	0.261
Direct Effect (C')	0.288
Test Conclusion	Partial mediation effect

4.3 Paths for the Development of a Sense of Social Responsibility

4.3.1 Improvement of Mechanisms for Fostering Social Responsibility

In order to enable students to transform their sense of social responsibility into practical actions, it is necessary to build a complete set of cultivation mechanisms, including a guarantee mechanism, an evaluation mechanism and a coordinated nurturing mechanism, so as to ensure that the cultivation of the sense of social responsibility is effective and of high quality, and thus promote the formation of resolute and decisive responsible behaviors among students and their contribution to the society. (1) Establishing a coordinated and unified safeguard mechanism. Adding a coordinated and unified guarantee mechanism can effectively overcome the arbitrariness of social responsibility cultivation activities and ensure that social responsibility cultivation activities are carried out in an orderly manner, which is a necessary condition for promoting the effective development of social responsibility cultivation among students. (2) Build a scientific and effective practice incentive mechanism. As an important ideological education tool, the incentive mechanism can effectively

stimulate students' intrinsic positivity and initiative by giving timely affirmation and feedback to their positive behaviors, thus playing a significant role in enhancing the cultivation of students' sense of social responsibility. (3) Establishing a coordinated mechanism for multi-party cooperation. The cultivation of c students' sense of social responsibility in the new era is essentially an organic system in which multiple subjects participate and make concerted efforts. Society, family and universities, as three vital fields in the daily life of students, each assume an indispensable role. In order to fully enhance the effect of cultivating students' sense of responsibility, the key lies in building and optimizing the synergy mechanism among society, family and universities, so as to form a synergy of cultivation.

4.3.2 Give Full Play to the Nurturing Role

Colleges and universities are important bases for cultivating talents, and in the context of the development of the new era, they are charged with the important task of cultivating talents. College students not only need to have certain professional knowledge and devote themselves to the learning process, but also need to improve their ability to take responsibility and strive to become a new man of the times with firm beliefs. The sense of social responsibility of students can affect the future development of the country, colleges and universities, as an important place to educate people, must take up the educational tasks given by the times, by enhancing the effectiveness of ideological theory classes, expanding the space for practical experience in the cultivation of the sense of social responsibility, giving full play to the role of exemplary characters, creating a campus cultural environment with the theme of responsibility, exploring effective paths to cultivate the sense of social responsibility in the new era. The effective path of cultivating social responsibility in the new era is being explored. The synergistic development is a core way to cultivate students' sense of social responsibility, and its effectiveness must be further improved if its main channel role is to be fully realized. The synergistic effectiveness means that universities focus on teaching content and teaching methods during the Civic Education courses, so as to significantly improve the teaching effect and achieve the ultimate goal of optimizing the quality of education. To fully explore the integration path of Civic Education and Innovation and Entrepreneurship Education, to strictly follow the hierarchical characteristics of the physical and mental development of the university student group, and to implement tailor-made education methods for the

university student group on the basis of respecting the basic needs of the university students.

5. CONCLUSION

Taking ten universities in S province as an example, the article used structural equation modeling combined with questionnaires to study the role of Civic and Political Education integrated with Innovation and Entrepreneurship Education on the cultivation of sense of social responsibility. Based on the fitting results of structural equation modeling, entrepreneurship education has a significant positive effect on social responsibility at the 1% level, with a path coefficient of 0.349, and Civic and political education has a partially mediating effect between innovation and entrepreneurship education and social responsibility based on positively affecting social responsibility. Therefore, the Civic and political education in entrepreneurship education needs to make the reasoning deep and alive and beautiful, needs to guide the students to live a moral life and set up a correct view of money, and needs to be led by the socialist core values to cultivate the builders of the socialist cause.

References

Chang, S., Lin, J., & Lin, D. (2017). How to cultivate college students' Positive Thinking through the Life Education course? *Innovative and Creative Education and Technology*, 100.

Dong, X. (2022). Research on the integration of curriculum ideological and political education, innovation and entrepreneurship education into professional curriculum system in higher vocational colleges under the new engineering background. MATEC Web of Conferences,

Drton, M., Hollering, B., & Wu, J. (2025). Identifiability of homoscedastic linear structural equation models using algebraic matroids. *Advances in Applied Mathematics*, *163*, 102794.

Feng, T. (2021). EFFECT OF INTEGRATING IDEOLOGICAL AND POLITICAL EDUCATION INTO "MASS ENTREPRENEURSHIP AND INNOVATION" EDUCATION IN COLLEGE CURRICULUM ON ALLEVIATING STUDENTS'ANXIETY. *Psychiatria Danubina*, *33*(suppl 8), 343-345.

Gudergan, S. P., Moisescu, O. I., Radomir, L., Ringle, C. M., & Sarstedt, M. (2025). Special issue editorial: Advanced partial least squares structural equation modeling (PLS-SEM) applications in business research. *Journal of Business Research*, *188*, 115087.

He, P. (2021). Practical Research on Synergy between Ideological and Political Education and Innovation and Entrepreneurship Education in Universities.

2021 2nd Asia-Pacific Conference on Image Processing, Electronics and Computers,

Ibrahim, B., Ali, I., & Ahmad, S. (2017). Cultivating character education through transforming school cultural values. *Studia Humanitatis*(4), 6.

Jin, Y. (2022). Analysis of college students' entrepreneurship education and entrepreneurial psychological quality from the perspective of ideological and political education. *Frontiers in psychology*, *13*, 739353.

Kong, Y.-S., Siddiqui, F., & Kumar, V. (2025). Idiosyncratic risk and capital structure: the mediating role of corporate reputation and moderating role of corporate social responsibility. *Middle East Journal*, *12*(1), 98-123.

Lian, L. (2023). Research on Cultivating Positive Social Mindset among College Students in the New Era. *Applied & Educational Psychology*, *4*(5), 7-11.

Mogaji, I. K., & Raimi, L. (2025). Embracing entrepreneurial innovation in medicine: The case for inclusion of entrepreneurship education in medical school curriculum. *Ethics, Medicine and Public Health*, *33*, 101028.

Mu, F., Ju, Q., Gao, S., & Zhang, Y. (2020). Strengthen Practical Teaching and Cultivate Students' Ability of Application and Innovation. 2020 International Conference on Advanced Education, Management and Social Science (AEMSS2020),

Qin, C. (2024). Paths and Strategies for Cultivating Students' Practical Abilities in Vocational Education. *International Journal of Educational Teaching and Research*, *1*(2).

Song, W., Qiao, J., Li, L., & Peng, L. (2015). Exploration of ways in Ideological and political education in University and Research on Entrepreneurship Education. In *2015 International Conference on Education, Management, Information and Medicine* (pp. 231-235). Atlantis Press.

Wang, L.-s., Li, Y., Sun, H.-f., & WANG, L. (2018). The construction and operation of "Five-oriented" cultivation model for innovative and entrepreneurial quality of college students. *US-China Educ. Rev*, *8*, 248-259.

Wang, W. (2023). Research on Ideological and Political Education in Universities under the. *Adult and Higher Education*, *5*(17), 80-85.

Wei, J. (2022). Enhancing Campus Culture and Strengthening the Cultivation of Student Behavior. *Journal of Contemporary Educational Research*, *6*(7), 62-68.

Wei, T. (2023). Research on Ideological and Political Education Mode Based on the Cultivation of Innovative and Entrepreneurial Talents. *International Journal of New Developments in Education*, *5*(3).

Wu, W. (2021). Research on the Integration Path of Ideological and Political Education and Innovation and Entrepreneurship Education of College Students. *Clausius Scientific Press*, *6*(1), 78-79.

Yang, H., Zhang, J., Li, A., Chen, C., & Wang, L. (2024). The guidance and role of life outlook development in practical teaching system. *Advances in Educational Technology and Psychology*, *8*(3), 159-165.

Yongliang, W. (2023). Organic integration of ideological and political education and entrepreneurship education based on artificial neural network. *Learning and Motivation*, *84*, 101933.

You, L. (2023). Practical Pathways for Cultivating Innovative Talents in Higher

Education from the Perspective of Innovation Culture. *Journal of Human Resource Development*, *5*(4), 56-62.

Zhang, C., & Zhao, L. (2021). Education and cultivation of undergraduates' innovative ability based on philosophical thinking. *Science Journal of Education*, *9*(3), 1-5.

Zhang, X. (2024). Research on the challenges and coping strategies of the ideological and political education of young workers in public institutions. *International Journal of Educational Science and Theory*, *3*(8), 17-20.

Zhong, S., & Zhou, W. (2019). Inquiry and experiential mixed teaching method is effective way to cultivate high-quality innovative talents. *International Journal of Information and Education Technology*, *9*(9), 613-617.