

Integrating Innovation and Entrepreneurship Education in TCSOL: Insights from Tangshan University

ABSTRACT

Aims: This article primarily investigates the status of innovation and entrepreneurship education in TCSOL at local application-oriented undergraduate institutions in China. It also explores pathways for integrating innovation and entrepreneurship into the major.

Methodology: The study surveyed 238 undergraduate students majoring in TCSOL at Tangshan University, Hebei Province, China. The research methods such as questionnaires and interviews are used to collect the data.

Results: The findings reveal that 52.74% of students have limited understanding of innovation and entrepreneurship concepts. 59.07% of students have participated in very few or limited forms of the innovation and entrepreneurship education, while only 48.1% of students have engaged in more than two types of innovation and entrepreneurship activities. Additionally, 45.6% of students believe that the proportion of integration by specialized teachers is average or low, 53.2% of students think that the TCSOL major is not suitable for entrepreneurship, and 40.51% of students indicate that they are unwilling to try entrepreneurship if they are unemployed after graduation.

Conclusion: The integration of innovation and entrepreneurship education in TCSOL can be achieved through optimizing the training program and establishing a mechanism for training innovation and entrepreneurship talents; creating demonstration courses integrated professional and entrepreneurial elements, and deeply exploring the innovation and entrepreneurship education components embedded in each course; strengthening the construction of the faculty team for innovation and entrepreneurship education; valuing and actively organizing students to participate in academic competitions of the innovation and entrepreneurship projects; establishing a scientific and reasonable evaluation mechanism for innovation and entrepreneurship talents. The proposed pathways not only offer valuable insights for innovation and entrepreneurship education in TCSOL at local application-oriented undergraduate institutions, but also extend relevance to broader educational contexts, including other majors and comprehensive universities.

Keywords: TCSOL; innovation and entrepreneurship education; integration; pathways

1. INTRODUCTION

In 2015, the State Council issued the *Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Higher Education Institutions*, which set the goal of establishing a sound innovation and entrepreneurship education system in universities by 2020. In February 2019, the *China Education Modernization 2035* document emphasized the need to “fully implement the fundamental task of fostering virtue through education and

strengthen the cultivation of practical skills, collaborative abilities, and innovative capabilities.” Innovation is a prerequisite and foundation for entrepreneurial activities; entrepreneurship is based on innovation, and entrepreneurship drives innovation. Cultivating “double-innovation” talent that integrates innovation and entrepreneurship is an important direction for talent development in higher education today. Many scholars have conducted extensive research on innovation and entrepreneurship education from different perspectives[1-12]. Some scholars have also explored the integration path of innovation and entrepreneurship education and professional education[13-14]. However, their discussions are generally vague and lack pertinence and specificity.

This paper will explore the paths for integrating innovation and entrepreneurship education in TCSOL at local application-oriented undergraduate institutions, based on an investigation of the status of the innovation and entrepreneurship education at Tangshan University. However, the research findings are not limited to this institution alone. Through the analysis of Tangshan University's case, this study aims to provide applicable experiences and models for other similar application-oriented institutions, thereby promoting the innovative development of TCSOL major within a broader educational context.

Methodology:

The study surveyed 238 undergraduate students majoring in TCSOL at Tangshan University, Hebei Province, China. The research methods such as questionnaires and interviews are used to collect the data.

Result and Discussion:

2. QUESTIONNAIRE SURVEY ON THE STATUS OF INNOVATION AND ENTREPRENEURSHIP EDUCATION IN TCSOL

This study selects students from Tangshan University as the sample due to the institution's distinctive background and curriculum design in innovation and entrepreneurship education, which makes the research findings more targeted and representative. As a key contributor to local economic development and a pioneer in innovation education, Tangshan University serves as a valuable case for exploring students' experiences in innovation and entrepreneurship education. This exploration can provide insightful implications for relevant policies and practices.

To gain a practical understanding of the current state of innovation and entrepreneurship education in TCSOL, the author conducted a survey in September 2024, targeting 238 students from three cohorts in TCSOL major at Tangshan University: the grade of 2023 (78 students), the grade of 2022 (79 students), and the grade of 2021 (81 students). (The grade of 2024 was not included due to their recent enrollment and limited exposure to the program.) A total of 237 questionnaires were collected, resulting in a response rate of 99.58%.

The survey encompassed five key dimensions: students' understanding of innovation and entrepreneurship education, their level of participation in innovation and entrepreneurship activities, their expectations for engaging in such education, the implementation of innovation and entrepreneurship education within the TCSOL program, and students' suitability and willingness to pursue entrepreneurial endeavors.

This study, while focusing on Tangshan University, is designed to reflect the common characteristics of application-oriented institutions. Tangshan University's innovative

approaches in curriculum design, practical teaching, and innovation and entrepreneurship education are highly representative, offering valuable insights for similar institutions. However, several limitations should be noted. First, self-reported data may introduce biases, potentially affecting the accuracy of the findings. Second, the sample's representativeness must be critically assessed to evaluate generalizability and identify potential selection bias. Finally, research design constraints, such as time, sample size, and data collection methods, may limit the depth and validity of the analysis.

2.1 LACK OF UNDERSTANDING OF INNOVATION AND ENTREPRENEURSHIP

Innovation and entrepreneurship involve entrepreneurial practices that leverage innovations in technology, product development, brand image reshaping, service quality and model optimization, business operation model transformation, management strategy innovation, organizational structure adjustments, market expansion, and diversified sales channel development. Since the 2016 academic year, the TCSOL department has offered a "Fundamentals of Student Entrepreneurship" course, scheduled for the second or third semester, totaling 32 class hours. However, due to the early offering and limited class hours, with the majority of classes taught by teachers from the innovation and entrepreneurship center, the knowledge students gain related to innovation and entrepreneurship in the context of TCSOL is insufficient. The survey results indicate that while 87.34% of students recognize the importance of innovation and entrepreneurship skills during university, only 8.86% are very familiar with the concept of innovation and entrepreneurship education, and 47.26% of students have a moderate understanding of the concept. Although students theoretically recognize the value of innovation and entrepreneurship, there is a lack of practical knowledge and understanding. This situation may stem from insufficient emphasis on innovation and entrepreneurship education within the educational system, or from ineffective communication of relevant knowledge in curriculum design and teaching methods. This indicates that the TCSOL majors need to further strengthen their understanding and knowledge of innovation and entrepreneurship.

2.2 LOW PARTICIPATION FREQUENCY AND VARIETY OF STUDENTS IN INNOVATION AND ENTREPRENEURSHIP ACTIVITIES

In terms of enhancing students' innovation and entrepreneurship abilities, actively engaging in innovation and entrepreneurship activities is undoubtedly the most direct and effective approach. Tangshan University has taken proactive measures in this regard by launching a series of diverse activities, such as the Innovation and Entrepreneurship Training Program, which aims to systematically cultivate students' innovative thinking and entrepreneurial skills; the "Internet Plus" College Student Innovation and Entrepreneurship Competition, which provides a broad platform for students to showcase their ideas and business concepts; the Hebei Province College Student Innovation Method Competition, which focuses on inspiring students to explore and practice innovative methods; and the Hebei Province College Student Innovation and Entrepreneurship Education Annual Conference, which emphasizes the exchange and sharing of experiences and cutting-edge achievements in innovation and entrepreneurship education.

Survey results indicate that 71.73% of students have participated in only 1-2 activities or have never participated in innovation and entrepreneurship activities; 59.07% of students believe that the variety of forms of participation in innovation and entrepreneurship education is relatively few or very few. Only 48.1% of students have engaged in more than two types of the activities, with the majority participating in the Innovation and Entrepreneurship Training Program and the "Internet Plus" College Student Innovation and Entrepreneurship Competition. This indicates that the innovation and entrepreneurship activities provided by the

school have not fundamentally stimulated students' interest, and there is a need to further enhance the frequency and variety of student participation in these activities. This situation may limit the development of students' innovative thinking and entrepreneurial skills, highlighting the urgent need for the educational system to provide a rich and diverse range of practical opportunities in innovation and entrepreneurship.

2.3 DISCREPANCY BETWEEN SCHOOL-OFFERED INNOVATION AND ENTREPRENEURSHIP ACTIVITIES AND STUDENT EXPECTATIONS

According to Edgar Dale's Learning Pyramid Theory proposed in 1946, the learning effectiveness of "lectures" is the lowest, with only 5% of the content retained two weeks later, while "learning by doing" or "practice" allows for a retention of 75% after the same period. Survey results show that 51.48% of students believe that participating in innovation and entrepreneurship projects and competitions is the most beneficial form for enhancing their innovation and entrepreneurship education abilities, while 30.38% think that engaging in research projects related to teachers' innovation and entrepreneurship education is the most advantageous. Only 18.14% of students believe that learning through lectures is the most effective. Currently, Tangshan University provides lectures, innovation and entrepreneurship projects, and competitions. Notably, 88.19% of students express a strong willingness to engage in innovation and entrepreneurship education projects led by faculty; however, the actual rate of participation remains relatively low. This phenomenon may be related to various factors, such as the accessibility of projects, scheduling, and student initiative. It is evident that the school needs to gain a deeper understanding of students' needs and expectations, optimize the design and implementation of projects, and enhance student participation in order to truly achieve the goals of innovation and entrepreneurship education. If students could actively and deeply engage in the innovation and entrepreneurship projects led by teachers, taking on specific tasks such as market research, data analysis, project planning, and practical operations during the project implementation process, it would not only effectively enhance their professional skills and practical abilities but also inject new vitality into the innovative development of the projects.

2.4 STRENGTHENING THE INTEGRATION OF INNOVATION AND ENTREPRENEURSHIP EDUCATION INTO PROFESSIONAL COURSE TEACHING AND ASSESSMENT

For the major of TCSOL, its development relies not only on the transmission of traditional professional knowledge but also on a deep integration with the concepts of innovation and entrepreneurship. Research and analysis conducted on the TCSOL majors at our university reveal that although 67.93% of students believe that the faculty's expertise in innovation and entrepreneurship education is considered to be strong, and a significant majority of students, specifically 82.7%, acknowledge the importance of integrating innovation and entrepreneurship education into professional course instruction. Additionally, 79.75% of students consider it crucial to incorporate innovative thinking and skills into learning assessments and evaluations. However, 45.6% of students perceive that professional instructors integrate innovation and entrepreneurship education into teaching at a moderate or low level. Consequently, it is imperative for subject instructors to enhance the integration of innovation and entrepreneurship education within their course instruction and assessment methods. This approach will not only heighten students' focus on innovation and entrepreneurship but also facilitate a more cohesive integration with professional knowledge, thereby fostering a deeper connection between the major and innovation and entrepreneurship.

2.5 WEAK WILLINGNESS OF STUDENTS TO ENGAGE IN ENTREPRENEURSHIP

Willingness to engage in entrepreneurship refers to the desire of individuals or groups to pursue value creation and self-actualization through entrepreneurial endeavors, with the goal of achieving personal development and social impact. Data indicates that 53.2% of students perceive the TCSOL major as unsuitable for entrepreneurial activities. Additionally, 40.51% of students express a reluctance to pursue entrepreneurship even in the event of unemployment after graduation. Moreover, should they choose to start a business, they exhibit hesitance towards selecting industries related to TCSOL. This trend reflects a notable lack of confidence among students regarding entrepreneurship within this field, which is significantly influenced by the innovation and entrepreneurship education they receive in academic settings and their level of participation in related activities.

3. PATHWAYS FOR INTEGRATING INNOVATION AND ENTREPRENEURSHIP EDUCATION INTO TCSOL MAJOR

The paths for the integration innovation and entrepreneurship education in the major of TCSOL can be explored from the following five aspects.

3.1 INTEGRATION INTO THE TRAINING PROGRAM

The first pathway involves the integration of innovation and entrepreneurship into the training program. This requires the distillation of educational philosophies that emphasize innovation and entrepreneurship, reflective of the unique characteristics of the major, as well as the optimization of talent training programs to establish a “double innovation” talent cultivation mechanism.

The training program functions as a comprehensive framework for the education and development of students. A well-structured program is essential for providing students with the requisite knowledge, skills, and competencies, thus enabling them to realize their potential and adapt to the evolving demands of society. It is imperative to promote an educational philosophy that is innovative and entrepreneurial in nature, grounded in the discipline, focused on the identification of real-world problems, and aimed at developing practical solutions. This philosophy should be inclusive and seamlessly integrated throughout the educational process.

In the redefinition of the talent training program for the TCSOL major, it is crucial to prioritize the reinforcement of students’ knowledge frameworks while simultaneously nurturing their capacities for innovation and entrepreneurship as related to their specialization. Active exploration of pathways for cultivating “double innovation” talents is necessary, which entails constructing an educational paradigm that harmonizes institutional support with students' self-directed growth, integrates classroom instruction with extracurricular engagement, and combines on-campus theoretical and simulated learning with off-campus experiential opportunities. This holistic approach seeks to fully leverage the diverse capabilities of students, educational institutions, and society in the ongoing process of cultivating “double innovation” talents.

3.2 INTEGRATION INTO THE CURRICULUM INSTRUCTION

The second pathway involves the integration of innovation and entrepreneurship into curriculum instruction, with a focus on developing “professional and entrepreneurial integrated” demonstration courses. This approach adheres to a student-centered philosophy, whereby the cultivation of innovation and entrepreneurship capabilities is organically embedded within

the teaching of specialized courses. It necessitates a comprehensive exploration of the elements of innovation and entrepreneurship present in each course.

Curriculum instruction serves as the most direct mechanism for shaping students' perceptions of innovation and entrepreneurship while simultaneously fostering their competencies in these domains. Consequently, the establishment of "professional and entrepreneurial integrated" demonstration courses, along with the formation of a cohesive cluster of such courses, is imperative. During the instructional design process, educators should systematically identify and incorporate elements of innovation and entrepreneurship into various components of teaching, assessment, and evaluation.

For instance, in the core course "Introduction to Chinese Culture", instructors facilitated students' reflections on the planning of cultural teaching activities, employing innovative strategies to both preserve and promote exemplary aspects of traditional Chinese culture. Similarly, in the course "Grammar and Grammar Teaching of Chinese", instructors gathered and categorized grammar points from past interview questions used for Volunteers Chinese Language Teacher, enabling students to create their own innovative teaching plans inspired by these exemplary designs. These measures have helped students perform exceptionally well when participating in the selection process for teachers of Chinese to Speakers of Other Languages organized by Center for Language Education and Cooperation. In 2024, 21 graduates were accepted as reserve personnel for TCSOL.

Moreover, it is crucial to actively seek innovative course assessment and evaluation models, placing a strong emphasis on assessing students' practical application skills. This can be achieved through the use of case design questions, which serve to enhance students' innovative thinking abilities. Additionally, when providing guidance for innovation and entrepreneurship competition projects, students should be encouraged to select themes informed by their professional perspectives and engage in competitions, thereby facilitating the attainment of innovation and entrepreneurship outcomes that are closely aligned with their academic major.

3.3 INTEGRATION INTO THE MAJOR'S INNOVATION AND ENTREPRENEURSHIP FACULTY DEVELOPMENT

The third pathway focuses on strengthening the development of the faculty team dedicated to innovation and entrepreneurship education, with the aim of integrating student training in innovation and entrepreneurship with faculty research initiatives to enhance students' capabilities in these areas.

In the context of innovation and entrepreneurship education, the quality of faculty development has a direct impact on teaching effectiveness and the cultivation of innovation and entrepreneurship competencies among students in the International Chinese Education major. Therefore, efforts should be directed towards enhancing the pedagogical skills of existing faculty members in the realm of innovation and entrepreneurship instruction. Additionally, the active recruitment of part-time faculty from external sources is essential for enriching the teaching staff.

Furthermore, it is crucial to implement a categorized training approach for faculty engaged in innovation and entrepreneurship education. This approach may involve the promotion of distinct categories of faculty, such as those specializing in "professional and entrepreneurial integration" and those who serve as competition guidance teams. Organizing specialized training activities aimed at enhancing teachers' skills in innovation and entrepreneurship education can serve to motivate and support faculty in exploring and researching advanced

topics in this field. It is also important to increase the emphasis placed on innovation and entrepreneurship education within the frameworks of project proposals and outcome assessments.

Currently, team for innovation and entrepreneurship projects and team for competition guidance have been established. Additionally, part-time faculty specializing in innovation and entrepreneurship have been recruited from Kunming University of Science and Technology, Hubei Normal University, and Guangxi Minzu University.

Moreover, faculty members are encouraged to actively involve students in practical research projects, thereby providing students with opportunities to gain valuable experience and develop their skills through participation in faculty-led research initiatives.

3.4 INTEGRATION INTO EXTRACURRICULAR PRACTICE

This section emphasizes the importance of academic competitions and innovation and entrepreneurship projects, advocating for the active organization of student participation to utilize these competitions and projects as effective tools for enhancing both learning and teaching.

Participation in innovation and entrepreneurship-related academic competitions and projects during extracurricular hours represents a fundamental form of practical engagement for university students. These academic competitions serve as platforms for students to demonstrate their abilities and develop their skills, thereby playing a constructive role in their personal and professional growth. Moreover, they are pivotal in achieving a profound integration of professional education with innovation and entrepreneurship education.

Particular emphasis should be placed on the “Internet+” College Student Innovation and Entrepreneurship Competition. It is crucial to undertake meticulous preparation in organizing this competition, ensuring that dedicated faculty teams provide comprehensive guidance to students throughout the process. Such involvement allows students to refine their professional competencies within the competitive framework of the competition.

Furthermore, it is essential to maximize the effectiveness of the College Student Innovation and Entrepreneurship Training Program. This program is designed to be problem-oriented, focusing on the development of students’ abilities to identify problems, address challenges, and explore practical solutions, ultimately aiming to create value. Initiatives of this nature significantly contribute to the enhancement of students’ innovation and entrepreneurship capabilities.

3.5 INTEGRATION INTO THE STUDENT DEVELOPMENT EVALUATION SYSTEM

This section proposes the establishment of a scientifically grounded and rational evaluation mechanism for “innovation and entrepreneurship” talent through the implementation of innovative teaching methods and the reform of assessment forms.

First, it is imperative to integrate classroom instruction with extracurricular practice to optimize teaching methodologies and approaches. This integration seeks to cultivate students’ innovative potential and actively promote engagement in innovation and entrepreneurship activities, thereby ensuring that students’ knowledge frameworks align with professional standards.

Second, it is imperative to focus on enhancing students' problem perception and cognitive expansion training. Traditional summative assessment standards should be replaced with process-oriented evaluation strategies. This necessitates innovation in the scope and format of course assessments, thereby providing additional opportunities for self-directed learning. By implementing self-directed learning tasks, requiring the preparation of practical teaching reports, facilitating the analysis of innovative case studies, and engaging students in teaching projects, educators can effectively stimulate students' innovative thinking. Key components such as cognitive expansion, knowledge accumulation, and pedagogical skills must be incorporated into the course evaluation framework.

Furthermore, students' academic performance should be assessed in a comprehensive manner, taking into account multiple factors related to the learning process. These factors include the interaction and performance of learning groups during task execution, the degree of innovation exhibited, the level of engagement in discussions, peer evaluations of assignments, the effectiveness of class discussions, and the quality of practical reports. The evaluation criteria should be designed to establish core assessment components that prioritize capability testing, quality measurement, and the evaluation of innovative elements. This approach will effectively integrate the principles of "innovation and entrepreneurship" with competencies within the student growth and development evaluation system.

4. CONCLUSION

In local application-oriented undergraduate institutions, the integration of innovation and entrepreneurship education within the major of TCSOL can be pursued through five distinct pathways: (1) incorporating it into the training curriculum, (2) integrating it into course instruction, (3) embedding it within professional development initiatives, (4) including it in extracurricular activities, and (5) incorporating it into the student development evaluation system. This multi-dimensional and comprehensive approach not only fosters the advancement of innovation and entrepreneurship education of TCSOL but also enhances students' practical innovative abilities and optimizes the overall quality of talent cultivation. These pathways are not only applicable to Tangshan University but also provide actionable reference models for other application-oriented institutions. Future research could further expand the sample scope to validate the applicability of these pathways in different types of institutions, thereby promoting the comprehensive development of innovation and entrepreneurship education in TCSOL.

CONSENT (WHERE EVER APPLICABLE)

The authors declare that 'written informed consent was obtained from participants for publication. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

ETHICAL APPROVAL (WHERE EVER APPLICABLE)

The studies involving humans were approved by Ethics Committee of Siyue Educational and Technological Institute (SETI 2023025). The studies were conducted in accordance with the local legislation and institutional requirements.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The author hereby declares that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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