

## The application of "four self-confidence" ideological elements in the practical courses of information majors

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**Abstract.** In the major of information theory, the practical course is an important part of the professional training program, and the combination with the ideology of the course should not be ignored. This paper analyzes the current teaching situation of the practical courses of information theory majors, discusses the importance of combining the practical courses with the course thinking and politics, how to explore the "four self-confidence" thinking and politics elements of the information majors, and the methods of integrating the thinking and politics elements of the information majors' practical courses, so as to ensure that the teaching objectives of the information majors' practical courses are taken as the starting point and are naturally and appropriately integrated with the course thinking and politics. The purpose is to ensure that the teaching objectives of the information professional practice courses are the starting point, to naturally and appropriately integrate the content of thinking and politics education, to achieve the purpose of "thinking and politics in the curriculum" to educate people throughout the whole process, and then to build a new pattern of "big thinking and politics".

**Keywords:** "Four Confidence"; Curriculum Civics; Civics elements; Practical courses.

### 1. Introduction

According to the instruction of General Secretary Xi Jinping to build a big pattern of thinking and politics [1], universities across the country have launched new initiatives to reform "thinking and politics in the curriculum". The report of the 19th National Congress of the Communist Party of China (CPC) emphasizes that "the whole Party should more consciously enhance its road, theory, system and cultural self-confidence, neither take the old path of closure and rigidity nor the evil path of changing the flag, maintain political determination, adhere to practical work and prosperity, and always adhere to and develop socialism with Chinese characteristics". The importance of adhering to the "four self-confidence" lies in the fact that the "four self-confidence" is the inherent motivation to continuously push forward the great cause of socialism with Chinese characteristics, as well as the fundamental guarantee to build a well-off society and achieve the great rejuvenation of the Chinese nation. In information professions, practical courses are an indispensable part of the training system for professional talents, an important link for transforming knowledge into skills, with their own internal structural logic and target direction, occupying an important position and value. Therefore, the integration of the "four self-confidence" ideological elements into the teaching of practical courses in information majors not only helps to stabilise professional thinking, but also enhances students' sense of professional honour, and is an important part of the construction of practical courses in ideology to answer the fundamental question of "what kind of people to train, how to train people and for whom to train people". It is an important measure to answer the fundamental question of "what kind of people to train, how to train people and for whom to train people".



**Fig 1.** How to Integrate Civics in Experimental Courses

## **2. The teaching background of the current information professional practice course**

(1) Difficulty in integrating the thinking and politics elements into the practical courses of information majors

In the education system of universities, thinking and politics education is mainly completed through special ideological and political courses. The lecture form of the Civics course is single, the course content is relatively boring, and the acceptance degree of college students is still low. Moreover, the theoretical knowledge learnt is far removed from practical life, making it difficult to apply it to life and play a guiding role. It is particularly important to integrate ideological education into the teaching process of practical courses. University students spend most of their time studying various professional courses, and if Civic Education is effectively integrated into them, it can better help students to apply it to their professional-related fields and practise it in their future work. Since 2016, when General Secretary Xi put forward a clear demand for "thinking about politics in the curriculum", research on the integration of thinking about politics into practical courses has been gradually carried out, especially in the past two years, and has created a boom in the education of information majors. However, at present, there is a serious disconnect between the practical courses of information majors and the curriculum thinking politics, and the elements of thinking politics education are still relatively scarce, which requires teachers to explore and gradually infiltrate in teaching.

(2) Traditional teaching methods are more problematic. In the traditional practical course teaching, teachers only care about the operation results of students, but do not pay enough attention to the change of students' minds and whether their practical skills are improved. Under this traditional teaching mode, it is easy to cultivate students who "know what they know but do not know what they know". The rise of multimedia teaching has improved this phenomenon, as teachers can show more of the content of the course to students more vividly through relevant videos, allowing students to form a more intuitive impression of the knowledge. More platforms such as Wisdom Tree and Rain Classroom can now be used to collate more and more comprehensive relevant course content and practical videos for students.

## **3. The importance of combining course Civics in practical courses**

(1) Curriculum Civics is the first demand of university education at present

Curriculum thinking politics, in essence, represents a new comprehensive education concept, a new view of the curriculum, so that ideological and political education in colleges and universities is unconsciously integrated into all aspects and links of the teaching of college courses, to build a full, full and full curriculum education pattern form, the integration and development of various types of courses and ideological and political theory courses, and then form a synergistic effect, which is the current demand of college education in the first place[2]. The development of the practical courses in the information field In information majors, the practical courses are an important part of the professional talents training program, and the combination with the course Civics should not be neglected. (1) Curriculum thinking politics is the demand of teaching reform in colleges and universities. Colleges and universities are important fronts for the training of talents in China. Talented people without virtue are a destabilising factor in society, and those with virtue without talent have limited scope for development. The current social background and talent demand market require universities to carry out the teaching reform of ideological and political education, integrate the "education" of ideological and political education into the "teaching" of various professional courses, realize the integration of moral and talent education, and complete the "teaching and education" of universities. "(2) Curriculum thinking and politics is a way to improve the education of students. (2) Curriculum thinking politics is the need to improve the function of teachers. In the current teaching in colleges and universities, some teachers of professional courses in colleges and universities pay attention to professional courses, and practical courses only focus on students' operation, neglecting moral education, lacking the moral awareness and moral ability to consciously teach and educate people, and the situation that teachers and students do not meet each other in class is common. Teachers, who have always been called the "engineers of the human soul", should be obliged to take up the sacred responsibility of "teaching and educating people". The need to improve the functions of teachers and to enhance their quality is also the reason for the introduction of curriculum studies in professional courses. (3) Civic politics in the curriculum is the need for students to establish correct values and to cultivate comprehensive quality. In particular, the practical courses focus more on cultivating students' hands-on skills and the ability to solve engineering problems, so while we teach professional knowledge, we fully explore the potential elements of curriculum thinking and politics, develop its educational function, infect students and stimulate their empathy, and then implicitly shape and establish students' correct outlook on life, worldview and values, so as to be firm believers, exemplary practitioners and active disseminators of socialist core values. The students will then be able to shape and establish their correct outlook on life, worldview and values, and be firm believers, exemplary practitioners and active propagators of the core socialist values. The current social development needs comprehensive talents with both moral and intellectual abilities. We need to break the limitations of the traditional talent training model, integrate more modern teaching elements, promote the multi-level and diversified growth of students, and cultivate their comprehensive qualities, in which "talent" and "morality" are indispensable. The combination of professional courses and the ideology of the curriculum will help students to improve their comprehensive ability and quality, and cultivate qualified builders and successors of socialism who can adapt to the development of society with both virtue and talent.

(2) "Four Confidence" is the soul and core of "Curriculum Civics"

In September 2018, Xi Jinping stressed at the National Education Conference: "What kind of people to train is the primary issue of education. China is a socialist country led by the Communist Party of China, which determines that our education must take the cultivation of socialist builders and successors as its fundamental task, and cultivate generations of useful talents who support the leadership of the Communist Party of China and our socialist system, and who are determined to strive for socialism with Chinese characteristics for life. This is the fundamental task of education work and the directional goal of education modernization." "Efforts should be made to strengthen ideals and beliefs, educate and guide students to establish the lofty ideals of communism and the common ideals of socialism with Chinese characteristics, enhance students' confidence in the road, theory, system and culture of socialism with Chinese characteristics, and aspire to shoulder the heavy

responsibility of the times for national rejuvenation." Xi Jinping's aforementioned important speech indicates that the "thinking element" of "Curriculum Civic Politics" is to enhance the "four self-confidences" of university students. The "course thinking politics" requires that all courses and all teachers in universities must adhere to the direction of educating people in a red and specialized way, and political talk is its prominent feature. The "four self-confidences" are the soul and core of "Curriculum Civic Politics" and its scientific connotation.

In short, from the consistent educational policy of the Communist Party of China and Xi Jinping's important remarks on education, the goal of "Curriculum Civics" is to cultivate socialist builders and successors who are both red and professional. "The "red" is political leadership, the "specialization" must be subordinated to the "red", the political leads the professional, and the professional courses should be political. This is the essential requirement of "Curriculum Civics", which is reflected in the fact that teachers of professional courses must consciously practice and implement the "Four Confidences" in their classroom teaching. The "Four Confidences" are like the "1" of "Curriculum Civics", which is the soul of "Curriculum Civics", while the theory the teaching of professional knowledge that combines theory with practice and keeps up with the times is the "0" behind the "1", without the top "1", more "0s" are worthless. Without the "1", all the "0s" are worthless. This is the right thing for universities to adhere to the moral education and the direction of socialist schooling.

#### **4. The excavation of the ideological elements of the information professional practice course**

In order to explore the ideological and political elements of "four self-confidence" in information professional practice courses, we need to understand the basic connotation of "four self-confidence" first. The "Four Confidences" include confidence in the road, theory, system and culture of socialism with Chinese characteristics. The advantages and disadvantages of the road, theory, system and culture can only be highlighted through a comparative approach, and the main object of comparison is the current development of the industry at home and abroad. When incorporating the Four Confidence elements into practical courses, care needs to be taken to incorporate the essence and connotation rather than the concept. The integration of common, generalist elements into the curriculum can easily lead to homogenisation of the content, making it difficult to increase students' interest in learning and thus failing to achieve the desired effect of the curriculum. Nowadays, the information industry is developing rapidly, and its own characteristics determine that it is closely related to the fate of the country, and its development process has produced a wealth of "four self-confidence" thinking and political elements. We can explore the elements of education with characteristics of Chinese information industry. We can explore the specific ideological elements from the four aspects corresponding to the "Four Confidence".

##### **(1) Huawei's growth path.**

Firm confidence in the road is an inevitable requirement for achieving the great rejuvenation of the Chinese nation. General Secretary Xi Jinping made an important speech at the opening ceremony of the seminar on learning and implementing the spirit of the 19th Party Congress, emphasising that only by looking back at the road we have travelled, comparing the road of others and looking far ahead can we clarify where we have come from and where we are going, and only then can we see many issues deeply and accurately. Huawei was registered on September 15, 1987, and has spent 30 years growing from a private enterprise with nothing to a world-class communications manufacturing giant. As the world leader in 5G technology, Huawei is a leading global information and communications technology (ICT) solutions provider, focused on ICT and committed to realising the future information society and building a better, fully connected world. This gives us an important road confidence that Chinese people can do it, and that Chinese companies are fully capable of showing the power of Chinese companies on the world corporate stage. To achieve a big enterprise, it does not take much practice, 30 years is enough. This is the development confidence that Huawei brings to us, as well as the road confidence.

(2) Shannon's information theory

Shannon put forward the concept of information entropy, which laid the foundation for information theory and digital communication. When performing quantitative calculations of information, Shannon explicitly defined the amount of information as a reduction in the degree of random uncertainty. This demonstrates his understanding of information: Information is something that is used to reduce random uncertainty. Or Shannon's inverse definition: information is an increase in certainty. In fact, Shannon's original motivation was to get rid of noise in the telephone, and he gave an upper limit to the rate of communication, a conclusion first used in the telephone, later in fibre optics, and as of 2013 in wireless communication. Our ability to make clear transoceanic or satellite calls is closely linked to improvements in the quality of communication channels. We should remember Shannon by familiarising ourselves with his two major contributions: one is information theory, the concept of information entropy; the other is symbolic logic and switching theory. More than that, we should learn from his curious, practice-oriented and never-satisfied scientific spirit, which was an important lesson for his success.

(3) The road to ask for the sky in Beidou.

Institutional confidence is the confidence that the socialist system with Chinese characteristics has institutional advantages (Feng Pengzhi, 2016; Qin Zhengai, 2018). The rapid development of New China over the past 70 years since its establishment is a full manifestation of the superiority of the socialist system. Comrade Deng Xiaoping once said, "When comparing socialism with capitalism, its superiority lies in its ability to achieve national unity, concentrate its efforts and ensure focus". Back in the northern dipper hangs the western tower, the golden house is unoccupied with streams of fireflies." When Li Bai looked up at the stars at night, he must not have imagined that more than a thousand years later, the Chinese would hang dozens of "stars" in the sky with their own hands. As Beidou people themselves often say, the application of satellite navigation is limited only by human imagination, and the future of Beidou has unlimited possibilities. The future of Beidou has infinite possibilities, as well as the future of China, which is not afraid of hardship and innovation. Concentrating the struggles and indomitable efforts of several generations, the dedication and pragmatic style of Chinese spacemen shine in the starry sky. In the face of technological blockades and powerful rivals, we have been figuring out and breaking through bit by bit, which is such a difficult process. The successful networking of Beidou has taught us two things: core technologies cannot be bought, waited for or requested, and there is no shortcut to major original innovation in basic fields, but we must rely on long-term investment and practical accumulation to gradually achieve qualitative changes from quantitative changes; we should have full confidence in breakthroughs in "neck" areas and key core technologies. As long as anyone, any country or any nation has firm confidence, perseverance, pragmatism, concentration and single-mindedness, they will be able to make their own unique contribution to the scientific and technological progress of mankind, especially the industrious and wise Chinese nation.

(4) The Four Great Inventions of China

Cultural confidence is confidence in the advanced nature of socialist culture with Chinese characteristics. To insist on cultural confidence is to inspire the Party and the people with a sense of historical pride in the excellent Chinese traditional culture, and to form a general consensus and value recognition of the core socialist values in the whole society. The Four Great Inventions are the fruits of ancient Chinese innovation and the crystallisation of science and technology, which include papermaking, compass, gunpowder and printing. The Four Inventions have given a great impetus to the development of politics, economy and culture in ancient China, and have spread to the West through various channels, exerting a great influence on the history of the development of world civilisation. The four Chinese inventions were introduced to the West one after another before the emergence of modern European civilisation and had an impact on the development of Western technology. The adoption of gunpowder and firearms destroyed the intellectual shackles of medieval Catholic Europe. The compass reached the European navigators, making it possible for them to discover America and to sail around the world, laying the foundations for the development of world

trade and workshop crafts in the West. In his *Artillery*, published in 1857, Engels wrote: "In China, also at a very early period, pyrotechnics were made from a mixture of saltpeter and other primers, and used in military and grand ceremonies". The development of technology in ancient China allows us to see the cultural confidence of our Chinese people in the course of information technology development.

With the acceleration of global informatization, China's information industry has entered a period of rapid development. The information industry is an important manifestation of a country's scientific and technological strength, and an important symbol of a country's comprehensive national power. We can also tap into the ideological elements of major national projects and industry dynamics to cultivate students' sense of professional honour and understand the role of information majors in the development of interdisciplinary integration. The practical and innovative abilities of information students are particularly important today as China vigorously implements its independent innovation strategy. We can also cite cases such as Huawei to guide students to understand the urgency of breaking through foreign technological blockades and necking technologies in the context of the general international political and economic situation, and to guide students to correctly personnel the achievements of China in political and economic, scientific and technological, social development, foreign policy and other aspects, and to inspire students' "four self-confidence The students will be guided to correctly understand China's achievements in political, economic, scientific and technological development, social development and foreign policy, and to stimulate their "four self-confidences".

## **5. The integration of the ideological and political elements of the information professional practice course method**

(1) to improve the teachers' ideological and political literacy. As the guide of classroom teaching, teachers must have a conscious awareness of moral education and moral education ability, and enhance their own nurturing subjectivity, in order to adapt to the "same direction and synergistic effect" of the course of thinking and politics. Moral awareness and moral competence refer to the ability of teachers to pay attention to and cultivate the moral aspects of students in the teaching process, and the enhancement of teachers' own moral awareness and moral competence plays an important role in the future development of students. As the "engineer of the human soul", teachers are expected to take on the sacred responsibility of teaching and educating people, not only to teach well, but also to educate good people. At present, there is a common misconception among teachers that they emphasise professional knowledge and skills, but not morality and value transmission, believing that teaching professional knowledge is all that is required and that educating people is a matter for teachers of ideological and political theory courses, not their business. Students are influenced by teachers who emphasise talent over morality, which in the long run will have an incalculable negative impact on their worldview, outlook on life and values.

In order to enhance teachers' awareness of moral education and moral education ability, firstly, we should strengthen education and guidance, so that teachers can effectively understand their responsibility of standing up and educating people; secondly, we should conduct training on curriculum thinking and politics, and guide teachers to master the methods and skills to explore and find moral education elements in information professional practice courses, and to be able to effectively add these thinking and moral education elements to the curriculum; thirdly, we should take measures, such as conducting salons, to enhance communication between teachers of Civics and teachers of information professional practice courses as well as teachers of information professional courses and teachers of other professional courses, so as to strengthen mutual understanding between teachers of different disciplines and work together to serve the development of moral education[4]. Strengthen the institutional orientation to clearly implement the requirements of teaching and educating people into the classroom teaching of practical courses.

(2) Strengthen the overall design and carry out the elements of thinking and politics throughout. In the teaching, it is necessary to strengthen the overall design for the characteristics of the information professional practice courses, and to carry the Civic and Political elements through all the time. For example, in the construction of the teaching material system, the ideological and political elements should be used as the leader; in the determination of teaching objectives, the ideological and political elements should be the core; in the way of teaching evaluation, the ideological and political elements should be used as the yardstick [5]. Realizing the reform of the teaching evaluation method is an important link to promote the Civic Science course to turn into the Civic Science of the curriculum. The change of the evaluation method will force the reform and innovation of classroom teaching, and the Civic Science of the curriculum requires all courses to take nurturing and teaching at the same time as the goal of classroom teaching, to organically combine doing and being in education and teaching, and to cultivate professional talents with both moral and artistic qualities.

(3) Tapping into professional knowledge and internalizing the elements of thinking and politics. According to the talent training objectives of information majors and the Civic and Political objectives of practical courses, tap into the Civic and Political elements, find the entry point of professional knowledge and Civic and Political elements, and implicitly carry out Civic and Political education in teaching. Expand the teaching carrier to put the thinking and political elements into practice. For example, hybrid teaching methods are used, and online and offline classes complement each other. By expanding the teaching carrier and incorporating the elements of thinking and politics into it, not only can the teaching effect be effectively enhanced, but also help to put the elements of thinking and politics into practice.

(4) Integrating the stories of great men into the curriculum and passing on the spirit of science. The essence of practical courses is to seek truth from facts, and practice is the only criterion for testing the truth, which plays an unparalleled role in cultivating the scientific spirit of students in other disciplines. Distinguished scientists often shine with noble moral qualities and a great scientific spirit. The introduction of stories of scientists in the information field in the practical curriculum can, on the one hand, guide students to understand the development of the information industry; on the other hand, it can cultivate the scientific spirit of truth-seeking, rigour, questioning, enterprise and dedication, and cultivate students' sense of responsibility and mission to climb to the peak of science; at the same time, the anecdotes of scientists can be used as a spice for professional knowledge and enhance the interest of the curriculum. 1894, the year of Hertz's death, Marconi had just turned 20 when he read about Hertz's experiments and Lodge's report in an electrical magazine. Having enjoyed fiddling with coils and electric bells since he was a child, he dove headlong into the study of electromagnetic waves. He figured that since Hertz could measure electromagnetic waves from a few metres away, he must also be able to measure them from further away if he had a sensitive enough geophone. After many failed attempts, he finally took a promising first step. He installed a device to emit waves upstairs in his home and a geophone downstairs, which was connected to an electric bell. As soon as he switched on the power upstairs, the bell downstairs rang. At night, when his father saw the new device, he threw away all the anger and discontent he had been holding in his stomach and stopped calling him an "impractical dreamer". He began to give his son financial support and let him concentrate on his experiments.

(5) Innovative teaching methods. In the mode of teaching method, establish the idea of open education, explore the establishment of a "dual mentorship" model between teachers of practical courses and industry instructors, invite industry or enterprise instructors to go into the teaching site or base of professional practical courses, introduce the frontier of the industry, market demand, professional skills, etc., so as to inspire students to closely combine professional learning with professional spirit. This will help to bridge the gap between school education and social education. Secondly, in terms of teaching methods, group discussion, case teaching, blended teaching, project teaching, task-driven, on-site teaching and other methods are adopted to organically integrate the elements of thinking and politics into the whole process of teaching practical courses and promote a high degree of integration between professional practical teaching and ideological and political

education. Again, in terms of teaching methods, in addition to the use of simulation, animation, multimedia and other teaching methods, it is also necessary to promote the effective integration of modern technologies such as big data technology, digital technology, information technology and artificial intelligence technology, and to innovate three-dimensional and dynamic, rich and diverse means of integrating the ideological and political elements.

## 6. Conclusion

The practical courses of information majors have their own curriculum characteristics, in the history of discipline development, industry development history and industry advanced deeds, etc. can be explored rich "four self-confidence" thinking and political elements with discipline characteristics, the organic integration of these thinking and political elements into the practical courses can solve the separation of professional practical courses and thinking and political courses education, so that information This will enable the information professions to better cultivate professional talents with both moral and talent for the society, and better answer the fundamental question of "what kind of people to cultivate, how to cultivate people and for whom to cultivate people".

## Acknowledgments

Funding: This research was supported by the following funds:

The National Social Foundation of China (Grant No. 20BGL247).

China Postdoctoral Science Foundation: A study on the mechanism of physician engagement behaviour in online medical communities from the perspective of network effects (No. 2022M710038).

Guangxi Science and Technology Base and Talent Special Project: Research on the incentive mechanism of user information sharing in live e-commerce - based on social capital perspective (No., 2020AC19034).

2022 Guangxi Philosophy and Social Science Planning Research Project: Path and Policy Optimization of High-Quality Integration of Rural Agriculture, Culture and Tourism for Rural Revitalization (No., 22FGL024).

2021 Guangxi 14th Five-Year Education Science Planning Key Special Project: Research on the influence of learning communities on users' online learning behavior in the information technology environment (No., 2021A033).

2021 Guangxi 14th Five-Year Education Science Planning Key Special Project: Research on the influence of short video sharing on Chinese cultural identity of international students in China - taking Jieyin as an example (No., 2021ZJY1607). & Research on the impact of the "One Belt, One Road" initiative on the moral education of international students from countries along its route (No. 2021ZJY1612)

2022 Guangxi 14th Five-Year Education Science Planning Key Special Project: Research on the Design of Informatization Classroom Teaching Evaluation Index System in General Higher Undergraduate Institutions (No., 2022ZJY354); && Research on the Model Mechanism of High-Quality Development of Study Tours for Rural Revitalization (No., 2022ZJY1699).

2022 Innovation Project of Guangxi Graduate Education: Research on Cultivating Innovation and Practical Ability of Postgraduates in Local Universities in Guangxi. (No., JGY2022122).

Guangxi undergraduate teaching reform project in 2022: research on the construction of thinking and government in marketing courses under the online and offline mixed teaching mode. (No., 2022JGB180).

Teaching reform project of Guilin University of Electronic Science and Technology: research on the construction of the ideology and politics of the course of Brand Management. (No., JGB202114).

& Research and practice on the cultivation of innovation and entrepreneurship of university students based on the trinity of "curriculum + base + platform" (No. JGB202114).

Doctoral research initiation project of Guilin University of Electronic Science and Technology: "Research on the incentive mechanism of knowledge sharing in online medical communities" (No., US20001Y).

## References

- [1] Zheng S, Shahzad M, Asif HM, Gao J, Muqet HA, Advanced optimizer for maximum power point tracking of photovoltaic systems in smart grid: A roadmap towards clean energy technologies, *Renewable Energy* (2023), doi: <https://doi.org/10.1016/j.renene.2023.01.023>.
- [2] Zhu J, Zheng S, Kaabar MKA and Yue X-G (2022), Online or offline? The impact of environmental knowledge acquisition on environmental behavior of Chinese farmers based on social capital perspective. *Front. Environ. Sci.* 10:1052797. doi: 10.3389/fenvs.2022.1052797.
- [3] Shiyong Zheng, Jiada Chen, Junyun Liao, Hsin-Li Hu. What motivates users' viewing and purchasing behavior motivations in live streaming: A stream-streamer-viewer perspective. *Journal of Retailing and Consumer Services*, 2023, 72:1-10. <https://doi.org/10.1016/j.jretconser.2022.103240>.
- [4] Zheng, S.; Liu, H.; Guan, W.; Yang, Y.; Li, J.; Fahad, S.; Li, B. Identifying Intention-Based Factors Influencing Consumers' Willingness to Pay for Electric Vehicles: A Sustainable Consumption Paradigm. *Sustainability* 2022, 14, 16831. <https://doi.org/10.3390/su142416831>.
- [5] Zheng, S.; Ye, X.; Guan, W.; Yang, Y.; Li, J.; Li, B. Assessing the Influence of Green Innovation on the Market Performance of Small- and Medium-Sized Enterprises. *Sustainability* 2022, 14, 12977. <https://doi.org/10.3390/su142012977>.
- [6] Shiyong Zheng, Mingyue Wu & Junyun Liao (2022): The impact of destination live streaming on viewers' travel intention, *Current Issues in Tourism*, DOI: 10.1080/13683500.2022.2117594.
- [7] ShiYong Z, JiaYing L, Wei W, HaiJian W, Akram U, Lei W and BiQing L (2022) Effect of Seeding Strategy on the Efficiency of Brand Spreading in Complex Social Networks. *Front. Psychol.* 13:879274. doi: 10.3389/fpsyg.2022.879274.
- [8] ShiYong Z, JiaYing L, HaiJian W, Dukhaykh S, Lei W, BiQing L and Jei P (2022) Do Product Characteristics Affect Customers' Participation in Virtual Brand Communities? An Empirical Study. *Front. Psychol.* 12:792706. doi: 10.3389/fpsyg.2021.792706.
- [9] Zheng, S.; Cui, J.; Sun, C.; Li, J.; Li, B.; Guan, W. The Effects of the Type of Information Played in Environmentally Themed Short Videos on Social Media on People's Willingness to Protect the Environment. *Int. J. Environ. Res. Public Health* 2022, 19, 9520. doi:10.3390/ijerph19159520.
- [10] Wei Wang, Shiyong Zheng, Rizwan Ali, Jiaying Li (2022): Relevancy or Diversity? Recommendation Strategy Based on The Degree of Multi-Context Use of News Feed Users, *Journal of Global Information Management*, DOI:10.4018/JGIM.310929.
- [11] Xiao-Guang Yue, Yiyi Liao, Shiyong Zheng, Xuefeng Shao, Jing Gao (2022): The role of green innovation and tourism towards carbon neutrality in Thailand: Evidence from bootstrap ADRL approach, *Journal of Environmental Management*, doi:10.1016/j.jenvman.2021.112778.
- [12] Jun W, Shiyong Z and Yi T (2022) Does ESG Disclosure Help Improve Intangible Capital? Evidence From AShare Listed Companies. *Front. Environ. Sci.* 10:858548. doi: 10.3389/fenvs.2022.858548.
- [13] Cai A, Zheng S, Cai L, Yang H and Comite U (2021) How Does Green Technology Innovation Affect Carbon Emissions? A Spatial Econometric Analysis of China's Provincial Panel Data. *Front. Environ. Sci.* 9:813811. doi: 10.3389/fenvs.2021.813811.
- [14] Wang W, Huang M, Zheng S, Lin L and Wang L (2022) The Impact of Broadcasters on Consumer's Intention to Follow Livestream Brand Community. *Front. Psychol.* 12:810883. doi: 10.3389/fpsyg.2021.810883.
- [15] Zheng ShiYong, LiuMao Hong, HUANG Jinde (2019) The influence of community structure on the diffusion of knowledge-a view based on market segmentation, *International Journal of Emerging Technologies in Learning*, doi:10.3991/ijet.v14i08.10397.

- [16] Zheng, ShiYong ,Jiang, SuPing (2019) Application research of an innovative online education model in big data environment,International Journal of Emerging Technologies in Learning, doi:10.3991/ijet.v14i08.10404.
- [17] Renping Zhang, Shiyong Zheng, Jiaying Li, Otilia Manta (2022) Research on the Influence of Socialization Strategy of Online Educating Platform on Users' Learning Behavior, International Journal of Emerging Technologies in Learning, doi.org/10.3991/ijet.v17i17.34031.
- [18] Kaiyuan Liu, Ayesha Afzal, Yifan Zhong, Amir Hasnaoui, Xiao-Guang Yue, Investigating the resource curse: Evidence from MENA and N-11 countries, Resources Policy, Volume 80, 2023, 103215, ISSN 0301-4207, <https://doi.org/10.1016/j.resourpol.2022.103215>.
- [19] Jianhua Zhu, Ying Lu, Zhiting Song, Xuefeng Shao, Xiao-Guang Yue, The choice of green manufacturing modes under carbon tax and carbon quota, Journal of Cleaner Production, Volume 384, 2023, 135336, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2022.135336>.
- [20] Lichao Wu, Tomiwa Sunday Adebayo, Xiao-Guang Yue & Alican Umut (2023) The role of renewable energy consumption and financial development in environmental sustainability: implications for the Nordic Countries, International Journal of Sustainable Development & World Ecology, 30:1, 21-36, DOI: 10.1080/13504509.2022.2115577.