

Відгук офіційного опонента

д.е.н., професора, професора кафедри національної економіки та публічного управління КНЕУ ім.В.Гетьмана

УСИК Віри Іванівни

на дисертаційну роботу аспірантки кафедри менеджменту імені професора Л.І. Михайлової **Чжан Венсі (Zhang Wenxi)**

“Management of innovative development system of China citizenship higher education”(«Управління інноваційним розвитком системи вищої освіти китайського громадянського суспільства»),

поданої на здобуття ступеня доктора філософії з галузі знань 07-управління та адміністрування за спеціальністю 073 - «Менеджмент»

Relevance of the research topic

Innovation will become an increasingly central element of China's modernization. In practice, this will mean mobilizing resources across the country to stimulate greater creativity, invest more effectively in science and technology, and push for reform in how public research funding is distributed. Scientific strategists, first-class scientists and innovative teams, young scientists, outstanding engineers, craftsmen and highly skilled workers will receive more incentives.

Combining support for world-class research, outstanding innovation and equity in education will be difficult and expensive. It will also require us to shoulder much responsibility for modernizing Chinese-style education. Nevertheless, by doing so, China can create a new era of socialist education in universities with distinctive Chinese characteristics.

This determines the high degree of relevance and timeliness of Zhang Wenxi's dissertation topic selection.

Connection of work with scientific programs, plans, topics. The dissertation was carried out in accordance with the directions of research work of the Department of Management named by prof.Mykhailova of the Sumy National Agrarian University: "Development of management in the context of international integration processes" 2019-2023 (state registration number 0119U001336, Ukraine), within

by the author was carried out the topic of the management of innovation education development in comparison of Chinese and Ukrainian higher institutions. The dissertation research was also conducted within the research was carried out within the framework of the projects of the Ministry of Education Industry University Cooperative Education Program 2019, Program No: 201901090003 (China).

The scientific and practical significance of the dissertation. The scientific significance and practical significance of this article. While sorting out the historical problems and future development of Chinese higher education, this study also builds a bridge between Chinese higher education and Ukrainian higher education, and enhances the application value of higher education. Since the core value of the development of higher education is to serve the people's livelihood of the country, this study has high strategic value. This study is not only of high value to the higher education industry itself and the development of China's national economy, but also has a feeding effect on the full protection of national interests outside the economy and the implementation of China's education economy.

Completeness of presentation of the dissertation material in scientific publications.

The main scientific provisions and results of research on the topic of the dissertation were published in 9 scientific works, including: 3 articles in specialized scientific publications of Ukraine, all included in international scientometric databases; 2 articles were published in scientific periodicals of the Organization for Economic Cooperation and Development, which are included in the Scopus scientific-metric database; 4 theses in materials of scientific conferences. The total volume of publications is 2.23 sheets, of which 1.25 sheets. belongs to the author personally.

Articles in scientific publications included in the list of specialized scientific publications of Ukraine

1. Lozynska, I., Wenxi Zhang, Zhijiang Yu, Hongmin Yang. A case study on international education cooperation in colleges & universities under the belt and road initiative (Henan institute of science and technology). *Bulletin of Sumy National Agrarian University*, Vol. 2 (80), 2019. Pp. 49-51. <https://doi.org/10.32845/bsnau.2019.2.9>

2. Lozynska, I., Wenxi Zhang (2023). Ten-year review on the effect and prospect of postgraduate education reform in one Chinese University, *Bulletin of Sumy National Agrarian University*, Vol. 1 (93), p. 12-16. DOI: <https://doi.org/10.32782/bsnau.2023.1.3>

3. Zhang Wenxi, Inna Lozynska (2023) The residential college system: innovation and practice of student education management mode (take Sanquan College of Xinxiang Medical University as an example), *Bulletin of Sumy National Agrarian University*, (2 (94), 8-12. <https://doi.org/10.32782/bsnau.2023.2.2>

Articles in periodical scientific publications indexed in the Web of Science Core Collection and/or Scopus databases

4. Wenxi Zhang, Inna Lozynska, Wei Li, Nana Cai, Hongmin Yang, "Benefits and Barriers of Holistic Nursing Training by High-Fidelity Simulation in Obstetrics", *Computational and Mathematical Methods in Medicine*, vol. 2022, Article ID 1848849, 5 pages, 2022. <https://doi.org/10.1155/2022/1848849>

5. Dovhan, V., Blishchuk, K., Kanova, L., Maslov, A., & Zhang, W. (2023). Paradigma digital do desenvolvimento da política educacional da ucrânia no contexto da integração europeia: Da teoria à prática. *Revista on Line De Política E Gestão Educacional*, 27(esp. 2), e023040.

Scientific works certifying the approval of the dissertation materials:

6. Inna Lozynska, Wenxi Zhang (2019). An analysis of promoting co-construction of education action (PCEA) under the Belt and Road initiative in China. *Сучасний рух науки: тези доп. VI Міжнародної науково-практичної інтернет-конференції*, (4-5 квітня 2019 р.). – Дніпро, 2019. – С. 362-366.

7. Wenxi Zhang, Inna Lozynska, Yanjun Fu and Hongmin Yang, "Research on The Contribution of Higher Education to Economic Growth in The Silk Road Economic Belt..." Proceedings of the 37th International Business Information Management Association (IBIMA), ISBN: 978-0-9998551-6-4, 30-31 May 2021, Cordoba, Spain, p 2821-2832.

8. Zhang Wenxy (2022). The concept of educational innovation: historiographical review, Матеріали Всеукраїнської наукової конференції студентів і аспірантів, присвяченої Міжнародному дню студента – (14-18 листопада 2022 р.). – Суми, 246 с.

9. Lozynska I., Yang H., Zhang W., Fu Y. An analysis of 2017 China's education statistics. Інновації партнерської взаємодії освіти, економіки та соціального захисту в умовах інклюзії та прагматичної реабілітації соціуму: матеріали III міжнародної науково-практичної конференції. м. Кам'янець-Подільський, Подільський спеціальний навчально- реабілітаційний соціально-економічний коледж. – 2019. – 219-221 с.

The degree of validity of the scientific propositions formulated in the dissertation

Dissertation research is an independent scientific work of the author. Scientific results, conclusions and proposals submitted for defense were obtained by the author personally.

The dissertation work is devoted to substantiating theoretical and methodological principles and developing practical proposals for the management of innovative development of civic education of the People's Republic of China comprehensively expound the proposition of China's advantageous higher education management development.

Research tasks that were considered:

- to promote the development of China's higher education;
- to figure out what constitutes the international competitiveness of China's

higher education from the perspective of practice;

- to find a way to evaluate the international competitiveness of China's online higher education from the perspective of a regular teacher from a university;

- to find out the path for the development of China's advantageous online education industry;

- to guide and drive China's higher education to a bright development through online education to spread the world.

To implement the set tasks, there was a set of methods used: theoretical analysis and systematization of scientific literature on issues of general, educational, innovative management – with the aim of clarifying the scientific apparatus; specification, systematization of scientific information, study of regulatory, directive, instructional, methodical documents, as well as modelling and decomposition method - for substantiating and developing a model for introducing innovative management into the system of civil higher education; system-generalizing method - for formulating conclusions based on research results; empirical - observation, interview, questionnaire - to determine the state of implementation of the pedagogical conditions for the implementation of innovative management in an educational institution; expertise - for the purpose of carrying out an expert assessment; experiment (determinative and formative stages) – to find out the effectiveness of the technology for the implementation of pedagogical conditions, to determine its impact on the effectiveness of the management of the educational institution, to develop relevant scientific and methodological recommendations; statistical – quantitative and qualitative analysis of research performance indicators, rating method and mathematical processing of data, in particular, qualitative research – to evaluate the results obtained.

In general, after reading the dissertation and scientific publications, there is reason to state that the applicant managed to solve the task and achieve the goal of the dissertation research. The tasks are correlated with points of scientific novelty, and accordingly, the ways of solving the tasks chosen by the author are original.

The scientific novelty of the obtained results lies in deepening the existing theoretical provisions and providing scientific, practical and systematic recommendations for the management of educational institutions in China. Scientific achievements are real, and their scientific nature can be expressed as follows:

- firstly obtained a comprehensive system for ensuring the innovative development of China's civic education institutions through the continuous use of VR systems and applications in the educational process, for the accumulation of effective functioning and harmonious development of several main subsystems of the organization of higher education (state regulation, knowledge generation, innovative infrastructure, technology transfer), which determine the effectiveness of the national innovative system of higher education in China, the main purpose of which is the formation of a competitive, highly qualified specialist with professional and life competencies that meet the needs of the modern development of the national economy.

- improved the application of intelligent teaching in the education industry by highlighting virtual reality technologies already used to modernize the education system, reviewing and determining the relevance of existing applications of augmented and virtual reality used in the modern educational process.

- deepen the practical reform of teaching with new technology (simulation teaching, vr) in education through the analysis on the development status of educational innovation (artificial intelligence, system reform);

- systemized the methodological approaches to the analysis of the management of innovative development in higher education in the context of mapping the contribution of higher education to economic growth in China's Silk Road Economic Belt provinces using the Dennison growth factor analysis method, which confirmed the lack of investment in higher education, the lack of high-level universities in this part of the country, and a serious brain drain.

- developed meaningful filling of the concept of "educational innovation", which is based on ensuring the innovative orientation of the education system through large-scale computerization and activation of scientific, technical and innovative activities of higher educational institutions, creation of innovative structures in their system; reforming the education system taking into account the requirements of European standards and preserving cultural and intellectual national traditions;
- summarize pedagogical conditions for the effective implementation of innovative management in the system of secondary education (normative-legal, social-pedagogical, managerial, psychological-pedagogical);
- created research universities as the center of innovation and development of higher Education by studying the impact and trend of big data and artificial intelligence on the online education industry, provide relatively professional insights on the new technologies and trends of the online education market to institutions that are ready to enter or have implemented online education and training, and help them deeply understand the status quo and bottlenecks of the online education and training industry.

The structure and content of the dissertation, its completeness and compliance with the established requirements for design

The presented dissertation work of Zhang Wenxi has a logical structure, its content fully reveals the topic of scientific research.

This work analyzes the main characteristics of higher education models in China and Ukraine, compares the scientific, technological and innovative activities of higher education institutions in China and Ukraine, and also puts forward the path of innovative development that combines modern science. In China, education expenditure reached more than 4% of GDP from 2012 to 2023, but the dispersion of GDP per student in China shows a decreasing trend year by year. Higher education must meet the trends of the world economy, change the concept of education, carry out ideological and political education, strive to cultivate innovative talents, promote

the integration of industry, university, and research, vigorously improve the quality of teachers, and accelerate the reform of higher education in all aspects.

The Chinese Government's strategic program "Digitalization of Education" is being promoted in-depth as a key to implementing the Ministry of Education's work. It has achieved significant results in constructing new infrastructure, learning innovation, and reforming management systems.

However, on the one hand, due to the wide geography of the country, the direction of educational reform faces the difficulties of unbalanced regional development with different characteristics, so it is essential to fully study the experience of digital education reform in the world to find a fulcrum of policy and improve the technological path.

On the other hand, with the continuous advancement of global integration, the issue of education can no longer become a problem that can be solved by the region on its own, and the optimization of education issues is also a cultural base to influence the values of the future world of the citizens of the People's Republic of China, promote the coordinated management of global society, and support the world peace and security, stability and development and other important international issues.

In 2023, the goal of the Chinese government was to further increase the international competitiveness and level of university education. At the same time, competition will increase and universities will have to be more transparent and open to attract more of the best teachers and the most motivated students.

The relevance of the chosen research topic is determined by the methodological and conceptual principles of open civic education of the People's Republic of China and is determined by the strategic directions of state policy in the field of education, which have become priorities, namely: the formation of a safe educational environment, environmentalization of education; development of scientific and innovative activities in education, improvement of the quality of education on an innovative basis; informatization of education; ensuring national

monitoring of the education system; increasing the social status of teaching staff; creation of a modern material and technical base of the higher education system.

With the help of CiteSpace, an analysis of the level of innovative development of higher education in China was carried out to visualize the map of theoretical studies. The results showed that the number of articles published on education research in China increased from 2003 to 2023. Against the background of the revival of the economy of rural regions, education has become a key factor.

In the course of the study, it was determined that any innovative teaching technology (including virtual) involves the art of mastering the process, a certain sequence of operations using the necessary means (materials, tools and an algorithm of actions), i.e. in a procedural sense, the technology must provide an answer to the question : "How to achieve the result of activity (using what and what means)?" . At the same time, the concept of technology reflects the focus of scientific or practical research on purposeful improvement of human activity, increasing its effectiveness, instrumentality, and technicality.

Thus, innovative educational technologies characterize the general strategy of the development of education as a whole and the educational environment in particular. The main purpose of educational technologies is to forecast the development of educational systems, their design, planning and determination of factors that meet educational goals.

The applicant presented the material competently, logically, in English at a high level. The content of the dissertation corresponds to its essence. There is a proper relationship between the sections and subdivisions of the work, all sections contain figures and tables. Links to informational resources are correct. Conclusions to the sections of the dissertation work and general conclusions are logical and confirmed by the testing results at international and all-Ukrainian scientific and practical conferences, publication in specialized scientific publications of Ukraine, and international journals indexed in the scientific-metric database Scopus and Web of Science.

All of the above allows us to ascertain the sufficiency of the validity and reliability of the main provisions, conclusions and recommendations of the dissertation work.

Discussion clauses and comments on the content of the dissertation.

Despite the positive impression from reading the dissertation and the author's publications, one should pay attention to the presence of certain shortcomings and debatable provisions, namely:

1. The analysis of literary sources in paragraphs 1.1 and 1.2 would be expedient to be carried out according to a certain classification of scientific approaches or taking into account chronology.

2. In her dissertation, the author defines the following directions of development as the principles of open civic education of the People's Republic of China: formation of a safe educational environment, environmentalization of education; development of scientific and innovative activities in education, improvement of the quality of education on an innovative basis; informatization of education; ensuring national monitoring of the education system; increasing the social status of teaching staff; creation of a modern material and technical base of the higher education system, etc. However, the statement that this planning process is closed is debatable, because the author reasonably recognizes the influence of factors of the external environment, such as trends in the labor market, globalization, the influence of the Internet on society, etc.

3. The author proposed the National Action Plan "Digitization of Education" on issues of innovative development in the form of a targeted state program, based on the experience of the USA. But in my opinion, not all Western principles of work can be implemented due to the difference in mentality and state creation.

4. In pp. 3.2, the author notes several problems in implementing technological innovations in the practical training of nurses as one of the methods of improving the

quality of education in Chinese universities but needs to indicate ways to solve them. In addition, the author emphasizes the disparity between the technical possibilities of introducing innovations and the motivational potential in urban and rural areas, which should also be indicated in the proposed National Action Plan.

5. Finally, in pp. 3.3. it would be expedient to carry out a final calculation of the costs of the state and regional budgets and the implementation of the National Action Plan to increase the level of innovative development of higher education institutions in China and the projected benefits from the proposed innovative tools.

General conclusion

Dissertation of **Zhang Wenxi** "Management of innovative development system of China citizenship higher education", which was submitted for defense to the specialized academic council for obtaining the degree of Doctor of Philosophy in the field of knowledge 07 management and administration with a specialty 073 management according to its relevance, scientific and theoretical level, main results of validity, main provisions and results published in professional publications, novelty of the formulation and practical value meets the requirements of the Order of the Ministry of Education and Culture of Ukraine No. 40 of January 12, 2017 "On approval of requirements for the preparation of a dissertation" and Resolution of the Cabinet of Ministers of Ukraine of January 12, 2022 No. 44 "On approval of the Procedure for awarding the degree of Doctor of Philosophy and cancellation of the decision of the one-time specialized academic council of the institution of higher education, scientific institution on the awarding of the degree of Doctor of Philosophy" with changes introduced in accordance with Resolution of the Cabinet of Ministers No. 341 dated 03.21.2022

Офіційний опонент:
професор кафедри національної економіки
та публічного управління КНЕУ ім.В.Гетьмана,
д.е.н., професор

Підпис завіряється

