

Відгук офіційного опонента

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Київського національного університету технологій та дизайну

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на дисертаційну роботу аспірантки кафедри менеджменту імені 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. Education, science and technology, and human resources are the central planks of the plan to invigorate the country through science and education. Nothing less than the future of the nation depends upon the success of educational advancement.

In essence, China's vision is that supporting graduate talent will drive scientific and technological innovation, leading to improvements in national innovation capability and productivity. Without a well-funded, world-class education system, it is impossible to achieve this aim. But modernisation is also part of the plan suggests China's universities can expect significant changes in coming years.

In past, supporting science and technology was generally linked to economic development and improving human capital, while education matters were generally linked to issues around people's livelihood and well-being. This time, all these strands are tightly interwoven, insisting that socialist education, better science and stronger graduates can support each other.

The dissertation work is devoted to the substantiation of theoretical and methodological principles and the development of 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.

Connection of work with scientific programs, plans, topics. The scientific research of the dissertation work was carried out in accordance with the thematic plan of research works of the Sumy National Agrarian University (Ukraine) within the framework of the theme "Development of management in the conditions of international integration processes" 2019-2023 (state registration number 0119U001336), within which the author investigated the main trends and evaluated foreign experience of personnel management of an educational institution.

The scientific novelty of the obtained results lies in the deepening of existing theoretical provisions and the development of scientific-practical and methodical recommendations for innovative management of higher education institutions of the People's Republic of China. So, it was suggested 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.

Also were improved the application of intelligent teaching in the education industry through the highlighting virtual reality technologies that are 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.

In the dissertation got new vision 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) and were developed pedagogical conditions for the effective implementation of innovative management in the system of secondary education (normative-legal, social-pedagogical, managerial, psychological-pedagogical).

Theoretical and practical significance of the results of the dissertation.

Based on fundamental and applied research, the content, motivation system, financing mechanism for innovative development of higher education institutions in China and the willingness of Chinese citizens to participate in education reform to improve living standards and economic development are proposed. The results of the dissertation work can be used in the educational process when studying the disciplines "Personnel Management", "Personnel Management", "Personnel Management and Innovative Enterprise Development". At the same time, the research results can be used in conducting fundamental and applied research in the direction of personnel management.

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 scientific provisions.

The scientific provisions, conclusions and recommendations obtained from the research results are sufficiently substantiated and reliable. The dissertation is characterized by a clear adherence to the structural and logical scheme of the research, the correspondence of the scientific results and the provisions issued for the protection of scientific novelty to the set goal and the specific task of the research. The PhD student used a sufficient number of information sources from open databases, regulatory and legal literature, statistical and analytical materials. The results of the research and the author's recommendations have undergone practical testing, which is confirmed by relevant documents. The above is evidence of a sufficient level of validity and reliability of the results of scientific research, conclusions and proposals.

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

The dissertation is a comprehensive study devoted to finding a solution to the problem of managing the innovative development of higher education institutions in China.

Higher education in China has always had priority among the areas of state support. Since the opening-up reform, the Chinese government has invested a lot of resources in higher education and introduced a series of policy measures to improve the quality of education in higher education institutions, strengthen the foundation scientific research and promote international cooperation. These measures have produced remarkable results, as the level of higher education in China has greatly increased, and many Chinese universities have gained international prominence.

The innovations and development of China's higher education management system mainly include the following aspects: building a modern higher education system, developing the globalization of education through the introduction international standards and other measures; promoting the popularization of higher education among the population; improving the quality of education through the implementation of international standards of integrity and improvement of innovative abilities of students; strengthening international cooperation and academic exchanges.

The conducted methodological analysis of the investigated problem in the context of the implementation of innovative technologies in the modern educational space of China made it possible to find out that the level of the contribution of higher education to economic growth in the provinces of the Silk Road Economic Belt over the past 16 years (determined using the Dennison growth factor analysis method) is insignificant ($k=0.013$), significantly lower than the national average ($k=0.037$). The main reasons are insufficient investment in higher education, the lack of high-level universities in this part of the country, and a serious brain drain. The results show that it is possible to increase the level of the

contribution of higher education to economic growth in the Silk Road Economic Belt thanks to the growth of investments in higher education, the optimization of the distribution of higher education resources, the improvement of social conditions in the places of residence of students, the improvement of the quality of training and the motivation of education seekers, and the strengthening of the formation system personnel potential of higher education, improve the mechanism of attraction and retention of employees and create a favorable environment for their development.

The basis of industrial transformation and modernization is the breaking of the original growth model, which largely depends on technological innovation, especially on the improvement of independent innovation capabilities. The study of higher education reform in Ukraine helped to enrich the knowledge system, expand the scope of research on higher education in China, and draw the attention of scholars to the reform and development of education in developing countries.

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.

Currently, the Chinese Government's strategic program "Digitalization of Education" is being promoted in depth as a key to the implementation of the work of the Ministry of Education, and it has achieved significant results in the construction of new infrastructure, learning innovation and management system reform.

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 very important to fully study the experience of digital education reform in the world in order 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.

Discussion clauses and remarks to 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. To construct China's education in China's rural areas and educational innovation and development(sc.1.3). But it should be more clarified, how to construct the connection with the innovation of the in this study?

2. Among the empirical results, this study mainly focuses on the differences in the education funding per student of higher education among China vs. Ukraine (sc.2.1). But what are the clear characteristic trend, comprehensive evaluation and impact factors?

3. Based on the concept of Chinese digital online education industry (sc.2.2), what countermeasures have been put forward to promote the sustainable development?

4. When studying the specific VR or simulation teaching in China's advanced medical education (sc.2.3), where is the clear description of the relationship with educational innovation management?

5. Since it is China's education innovation management, only conducted innovative research from the aspects of national policies, industrial directions, teachers, etc., and lack of research from the perspective of principals.

6. The conclusions are general in nature, the statements are too formalized and do not reflect the specific results obtained in the dissertation.

But all the remarks I have listed are only of a recommendatory nature and do not affect the overall positive assessment of the dissertation work.

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:

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Підпис завіряється

