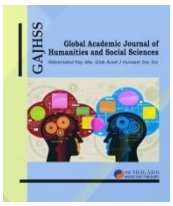
Global Academic Journal of Humanities and Social Sciences

Available online at https://www.gajrc.com
DOI: 10.36348/gajhss.2022.v04i05.002

OPEN ACCESS



ISSN:2706-901X (P)
ISSN:2707-2576 (O)

Original Research Article

Education Innovation in the Context of Globalization and Industrial Revolution 4.0: Necessities and Requirements

Nguyen Minh Tan[1*]
[1]University of Transport and Communications, No.3 Cau Giay Street, Lang Thuong Ward, Dong Da District, Hanoi, Vietnam

***Corresponding Author**
Nguyen Minh Tan
University of Transport and Communications, No.3 Cau Giay Street, Lang Thuong Ward, Dong Da District, Hanoi, Vietnam

Article History
Received: 23.08.2022
Accepted: 19.09.2022
Published: 25.09.2022

Abstract: Entering a new phase, the stage of national construction and development in the context of deepening globalization, science and technology has progressed strongly, many cadres and party members, especially those who work in the fields of science and education, all find that in order to bring the country out of backwardness and underdevelopment, people are the decisive factor. This shows the mandatory requirement of education reform, which focuses on training and fostering high-quality human resources; "fundamental and comprehensive reform of education". This study focuses on analyzing the globalization process and its impact on education, the requirements posed for educational reform, and proposing solutions to develop education in the future.

Keywords: Education innovation, globalization scene, industrial revolution 4.0, Vietnam.

INTRODUCTION

With the prospect of the development of education in the context of globalization and the Industrial Revolution 4.0, Vietnam will certainly face many difficulties. Meanwhile, Vietnam's education system is still too heavy on knowledge transmission and not on developing the quality and capacity of learners; the quality of teachers and administrators is not uniform; The infrastructure system is still limited [1]. In the era of deep international integration, all economic and social sectors are under the great influence, fundamentally affecting the structure and development. With the education system of Vietnam, we face no small challenge [2].

Vietnam's education has achieved good results, and outstanding achievements, but that is not enough to cover up the shortcomings in the integration era [3]. As we all know, with the development of science and technology, the fourth industrial revolution has erased the gap between people, allowing one country to learn from the other's achievements [4, 5]. In the field of education, the introduction of teaching methods that take advantage of scientific and technological achievements is the trend of the new era. However, we have not invested properly and have not paid much attention to the macro level, only a few small models [1, 6].

Teaching methods are also worth discussing when the quality of university training is also heavily exploited by the media [4]. In particular, the training of high-quality human resources to meet the requirements of the fourth industrial revolution is not yet widespread. Learners themselves do not understand correctly, so they do not have the right sense of learning to serve the new era.

The first thing that needs to be renewed is the thinking of doing education [7]. Globalization makes it possible for us to see the superiority of developed education systems. Our educational philosophy still emphasizes achievement, thereby

creating pressure on both teachers and learners [8, 9]. That ideology gradually reveals its shortcomings when compared with the ideas of advanced education systems in the world, which encourage creativity, exploration, and discovery to build a solid knowledge base for students. themselves [10, 11]. More importantly, modern educational thinking gives learners an interest in research, overcoming obstacles to increase each person's knowledge. For example, in the US, students can find their own research topics and lecturers have to give their best support, not being bound by the school's rules [12]. Lecturers are obliged to answer all students' questions and spend one session a week talking with students [11, 13].

RESEARCH RESULTS AND DISCUSSION

Background of the Fourth Industrial Revolution

The Fourth Industrial Revolution that spread across the world today is due to the fact that the speed of development and the impact of breakthroughs in technology have had unprecedented effects. Inventions and scientific advancements are ubiquitous, such as artificial intelligence, Robotics, the internet of things (IoT), self-driving cars, biotechnology, nanotechnology, 3D printing, materials science, quantum computing, etc. impact almost every industry at such a rapid pace that it is said that the Fourth Industrial Revolution is developing at a rapid pace. degree of the exponential function [14].

The Fourth Industrial Revolution plays an important role in creating products and services that enable us to live better lives. Conversely, this revolution could also lead to even greater inequality as new technologies will replace labor- intensive jobs. This is considered the biggest challenge brought by this revolution. Besides, another challenge is how to create jobs that require higher skills for people when automated technologies have been replacing labor in many daily jobs [15].

Thus, the phrase "industrial revolution" implies a great change, not only economic transformation but also cultural and social transformation in a comprehensive way. Vietnam is moving very quickly from the "golden population" structure to the aging population. The Fourth Industrial Revolution should be seen as an opportunity for us to increase labor productivity based on scientific and technological applications, effectively taking advantage of the current "golden population" structure. To be sure, education and training will play a key role in solving this great problem.

Process of Globalization

Currently, globalization is an objective trend, attracting countries, covering most fields, promoting cooperation, and increasing competitive pressure and interdependence among many countries. The globalization process has 5 main advantages: creating the possibility of developing and popularizing information technology and telecommunications facilities; forming a knowledge-based economy, with a clear distinction between the role of knowledge in production today compared to the past; creating conditions for wide cultural and ideological exchanges, bringing people closer together; promote economic development, trade and make it possible to enforce objective economic laws in a large global space; offers the possibility to solve some common problems facing economic globalization and social development [16].

Besides the advantages, globalization is posing great challenges and risks for countries around the world, especially developing countries. In terms of society, at present, all countries are facing common problems in national economic development, such as ecology, environmental pollution, resource depletion, population, and public health. , the gap between rich and poor, social evils, and international crime [18]. Politically, these are the serious challenges of globalization to national sovereignty, increasing economic integration will lead to political integration. With that logic, one speaks of the weakening of the nation-state model; about the interdependence of nation-states rather than their complete independence. Participation in global production networks and value chains has become a requirement for economies [3].

Interdependence, integration, competition, and cooperation among countries are becoming more and more common. The knowledge economy develops strongly, so people and knowledge become more and more decisive factors for the development of each country, etc.

Impact of globalization and industrial revolution 4.0 on education

One of the requirements to prepare for the Fourth Industrial Revolution is to improve human capital to be able to meet the constantly changing knowledge and skills requirements in the new working environment. This sets out for education and training a great mission to prepare human resources to meet the development requirements of the country. The problem that many countries recognize and pose is the transition from an education that is heavy on equipping learners with knowledge and skills to an education that helps develop capacity and promote innovation and creativity. for learners, meeting the requirements set for citizens in the era of the Fourth Industrial Revolution [19].

With the flow of new learning models and the development of science and technology, traditional educational methods will certainly face many challenges. Content is essential.

One of the highlights is the differentiation of each learner. Each student has different learning needs and abilities. Advances in technology allow educators to design individual learning pathways tailored to each specific case [11]. Educational software has been put into use that adapts to each student's ability and allows students to learn at a pace that suits their needs. In many countries, this adaptive learning software is rapidly replacing part or all of the role of textbooks in the classroom.

Besides, access to information has become easier than ever, leading to a question that educators need to answer is determining the core knowledge that learners need to be equipped with in the future [4]. Whereas educational models of the past focused on providing learners with the knowledge and skills necessary to help them become highly skilled professionals, today's educators are more concerned with rather than teaching students how to self-study [3]. Education teaches students how to think, how to evaluate situations and complex problems in life, thereby forming problem-solving abilities.

The development of technology has a great influence on the role of the teacher in the classroom. A technology-enabled school management system can provide a data system that helps teachers track the progress of each class, thereby providing immediate feedback on students' difficulties. are encountered. But technology, no matter how modern and important, cannot replace the role of the teacher or turn the teacher into a robot. Therefore, how to take advantage of and master technology, so that this tool supports and creates freedom and creativity in education is a challenge for every teacher and educational institution.

The changes mentioned above are a hint of how educational models may work in the future: computers act as personal assistants in classrooms with diverse learning paths. ; teachers and parents are better equipped to understand the learning process of students; Classes are divided into small groups of students with the right skills and qualifications to work together.

Issues Raised in the Context of Educational Innovation

In the new wave of industrialization and international integration, the education system must focus on developing the qualities and capabilities of learners by orienting the most suitable paths for groups of students and students. to help them realize their individual potential [17, 22]. This should be applied at all levels of education and training. In particular, for universities, the success of a university is not merely the rate of graduates, the employability of students, or position on international rankings, but also the sustainable and long-term development of students, their willingness to take risks, and their capacity for innovation and creativity.

To do so, we need to affirm the importance of an education system that supports lifelong learning. The entire education system must recognize the diversity of young people's strengths and talents. Only passion-driven learning can help build a new generation of bravery, self-direction, and consistent pursuit of goals. The following are some issues raised and oriented for Vietnamese education in the context of the Fourth Industrial Revolution. Specifically:

First, linking teaching and learning with practice:

Education needs to simulate and prepare learners for real life as much as possible when technology has made access to knowledge so easy that knowledge no longer has the meaning of "insurance". for the future of learners as before [23]. One of the appropriate approaches is to strengthen science, technology, engineering, and math education (STEM education) in schools. Accordingly, students will be equipped with knowledge associated with their applications in practice; experience exploring and discovering technology associated with knowledge learned in educational programs; are encouraged to create science and technology in order to improve the development of new technologies [1, 11]. This is an interdisciplinary approach to equip learners with knowledge and skills that they can apply to solve problems in life [17].

The Ministry of Education and Training has piloted STEM education at 15 middle and high schools in the provinces and cities of Hanoi, Hai Duong, Hai Phong, Nam Dinh, and Quang Ninh. The pilot results show that STEM education directs students to close local ideas, passionate after-school clubs, and a partial change in the way science is taught and learned.

Second, diversify educational pathways:

Each student will have different learning needs and abilities, and the mission of education is to discover, nurture and motivate learners to identify and pursue their interests and passions. This requires the education system to provide diverse educational pathways to cater to the different learning inclinations and learning styles of

each individual. The new general education program has made fundamental changes with the integration of content at the primary and lower secondary levels, a strong differentiation at the high school level, and the promotion of career orientation and streamlining. in general education.

Third, encourage lifelong learning:

One of the most important goals of education is to discover and nurture talent, and to encourage the pursuit, passion, and lifelong learning needs of learners. To achieve this goal, a major change is the restructuring of the system of continuing education centers and community learning centers, changing the traditional patterns for building lifelong learning centers. . This is also the basic solution to carry out fundamental and comprehensive renovation of the education system "Improving the national education system towards an open education system, lifelong learning and building a learning society" according to the spirit of education. Resolution No. 29-NQ/TW of the Eighth Conference of the Party Central Committee, term XI (2013).

Fourth, promote teaching and learning foreign languages, especially English; strengthen the application of information technology in learning and management:

The Ministry of Education and Training has submitted to the Prime Minister for promulgation a Decision approving the adjustment and supplementation of the Foreign Language Teaching and Learning Scheme for the period 2017 - 2025(6) with a number of orientations, such as "creating a breakthrough" on the quality of teaching and learning foreign languages for all educational levels and training levels, encouraging the introduction of foreign languages into schools from preschool and social activities. Promote integrated foreign language teaching in other subjects and teach other subjects (such as math and science subjects, specialized subjects...) in foreign languages. Promote the application of advanced technology in teaching and learning foreign languages with an electronic learning system suitable for all audiences so that learners can learn foreign languages and access native languages anytime, anywhere, by any means. , especially in developing listening and speaking skills. Create a foreign language learning environment in schools, families, and society so that teachers, lecturers, family members and learners (students, students, etc.) can learn foreign languages together, etc.".

CONCLUSION

To succeed in the coming decades, the education sector needs to have foresight in the context of the constantly shifting organizational forms and skills requirements. Accordingly, future workers will need to be capable of lifelong learning to be ready for change. Today's educational institutions are largely a product of the technological infrastructure and social circumstances of the past. In the rapidly changing context, educational institutions need to rethink to improve their responsiveness. Agencies and businesses must also adapt to the changing environment and need to determine the importance of developing human resource development strategies towards sustainable development goals through cooperation with universities. University.

To prepare future generations and increase the competitiveness of the Vietnamese people, we need to build an education system that fosters innovation and creativity, and emphasizes the importance of lifelong learning. and long- term development of learners. Above all, efficient budget allocation, coupled with a strong political commitment to education and training will make a difference to the future of Vietnam's young generation.

REFERENCES

1. VuHong, V. (2021). Managing traffic safety education activities in primarand y schools: status, necessity, and influencing factors. *Revista on Line De Política E Gestão Educacional*, 25(3), 2535-2551. https://doi.org/10.22633/rpge.v25i3.15840
2. Hang, L. T., & Van, V. H. (2020). Building Strong Teaching and Learning Strategies through Teaching Innovations and Learners' Creativity: A Study of Vietnam Universities. *International Journal of Education and Practice*, *8*(3), 498-510. DOI: 10.18488/journal.61.2020.83.498.510.
3. DucHiep, H., Vothanh, H., & Vuhong, V. (2022). The changes in education policy in the context of educational innovation in Vietnam. *Revista on Line De Política E Gestão Educacional*, 26(esp.1), e022043. https://doi.org/10.22633/rpge.v26iesp.1.16772
4. Trung, N. S., & Van, V. H. (2020). Educating Traditional Cultural Values in Vietnam Universities. *South Asian Research Journal of Humanities and Social Sciences,* 2(3), 210-214. DOI: 10.36346/sarjhss.2020.v02i03.006
5. Luongngoc, V., & Vuhong, V. (2022). O papel educacional das redes sociais na comunicação de políticas no Vietnã. *Revista on Line De Política E Gestão Educacional*, 26(esp.1), e022037. https://doi.org/10.22633/rpge.v26iesp.1.16513
6. Trung, N. S., & Van, V. H. (2020). Vietnamese Cultural Identity in the Process of International Integration. *Journal of Advances in Education and*

Philosophy, 4(6), 220- 225. DOI: 10.36348/jaep.2020.v04i05.006
7. Hahn, J. (2010). Integrating Professionalism and Political Awareness into the Curriculum. *Nurse Educator*, 35 (3), 110-113. Retrieved from DOI: 10.1097/NNE.0b013e3181d95040
8. HongVan, V. (2020). Identify Methods of Teaching and Learning to Create Interest, Self-Study, And Creativity of Students. *Humanities & Social Sciences Reviews*, 8(3), 646-656. https://doi.org/10.18510/hssr.2020.8369.
9. Van, H. V. (2021). Management of educational activities in schools towards the approach of learners' competency: a case study of a high school. *Nuances: Estudos Sobre Educação*, 32(00), e021005. https://doi.org/10.32930/nuances.v32i00.9118.
10. Freire, P. (1985). The politics of education. Culture, power, and Liberation. *Houndmills and London: MacMillan.*
11. Van, H. V., & Hiep, H. D. (2019). Innovating teaching and learning methods to improve the quality of human resource training in Vietnam today. *International Journal of Science and Research*, 8(8), 1853-1861. DOI: 10.21275/ART2020713
12. Christian, W. (2010). Student political consciousness: Lessons from a Namibian mission school. *Journal of Southern African Studies,* 30(3), 539-558. Retrieved from https://doi.org/10.1080/03057070420002540 92
13. Van, H. V. (2022). The State's Legal Policy and Management on Civil Servants: The Current Situation and Issues Raised. *International Journal of Early Childhood Special Education*, 14(3). DOI: 10.9756/INT-JECSE/V14I3.688
14. Schwab, K. (2016). The Fourth Industrial Revolution: what it means, how to respond https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/
15. Schwab, K. (2017). The Fourth Industrial Revolution, Crown Business Publisher.
16. Dao, N. T. (2015). Globalization, opportunities and challenges for the library information industry in Vietnam. Retrieved from nlv.gov.vn.
17. Van, H. V. (2022). Education policy in the context of Vietnam's international integration: Problems raised and proposed solutions. *International Journal of Health Sciences*, 6(S4), 3562-3571. https://doi.org/10.53730/ijhs.v6nS4.9019
18. Van, H. V. (2021). Management of educational activities in schools towards the approach of learners' competency: a case study of a high school. *Nuances: Estudos Sobre Educação*, 32(00), e021005. https://doi.org/10.32930/nuances.v32i00.9118.
19. Abersek, B. (2017). Evolution of competences for new era or Education 4.0, The XXV conference of Czech Educational Research Association (CERA/CAPV) "Impact of Technologies in the Sphere of Education and Educational Research".
20. Vuhong, V. (2022). Traffic safety education activities for universities students in Ho Chi Minh City. *Nuances: Estudos Sobre Educação,* 33(00), e022012. https://doi.org/10.32930/nuances.v33i00.9490
21. Luongngoc, V., & Vuhong, V. (2022). Research and teaching of marxism-leninism at the universities: The requirements, difficulties and recommended solutions. *Nuances: Estudos Sobre Educação*, 33(00), e022011. https://doi.org/10.32930/nuances.v33i00.9489
22. Van, V. H. (2020). Determine The Appearance And The Value System Of The Traditional Culture Of Vietnam Through The Worship Of Ancestors Belief Of Vietnamese People. *Psychology and Education Journal*, 57(9), 621-630.
23. FICCI. (2017). Leapfrogging to Education 4.0: Student at the core, FICCI-EY Future of Skills and Jobs in India Report.