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Comparative Analysis on Education System in China and Canada

Hanyu Zheng

Department of Management, University of Toronto Scarborough, Toronto, Canada
Holley.zheng@mail.utoronto.ca

Abstract: With education receiving increasing global attention as a key driver of national development, countries around the world, particularly major education powers such as those in Asia and North America, are placing growing emphasis on reforming and improving their education systems. This paper presents a comparative analysis of the education systems in China and Canada, focusing on educational policy, structural organization, teaching approaches, and the quality of higher education and teacher training. It explores how China is transitioning from an exam-oriented system to a quality-based model, while Canada emphasizes decentralized governance and student-centered, holistic learning. The study also examines the disparities in educational resource allocation between urban and rural areas in China, contrasted with Canada's relatively balanced development. Furthermore, the paper investigates the alignment between higher education and employment outcomes, highlighting China's challenges with structural mismatches and Canada's strengths in co-operative education. Despite their distinct trajectories, both countries face emerging challenges in ensuring equity, improving teaching quality, and adapting to global and technological change. The findings offer insights into the strengths and limitations of centralized versus decentralized education systems and provide implications for future policy development.

Keywords: education policy, teaching structure, advance education, teacher qualification

1. Introduction

In contemporary society, education is widely regarded as one of the core drivers of economic development. Schultz's human capital theory establishes the core role of education in economic growth. He pointed out that education is an investment that can increase the productivity of individuals and thus promote overall economic development [1].

Education is not only a way to improve the quality and skills of individuals, but also an important means to promote the innovation and competitiveness of society as a whole. In the Millennium Development Goals (MDGs) proposed by the United Nations in 2000, "universal primary education" is explicitly listed as one of the core goals, reflecting the international community's general recognition of the great potential of education in eradicating poverty, improving the quality of nationals, and promoting overall economic and social progress [2].

Throughout the world, the interaction between education and economic development in different countries and regions has shown distinctive patterns. A large number of studies have shown that there is a positive correlation between educational investment and economic growth. Through the analysis of long-term data for many countries, people found that the increase of years of schooling

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significantly promoted the growth of per capita Gross Domestic Product (GDP), especially in high-income countries. Moreover, the quality of education (such as students' cognitive skills) is more important to economic growth than the mere number of years of schooling, and that high-quality basic education can improve labor market productivity and enhance a country's technological innovation capacity. Moreover, in developing countries, the impact of education on economic growth may be constrained by policies, resource allocation and socio-economic structures. By reviewing the empirical study of the global rate of return on education, it is found that in low-income countries, the economic rate of return on basic education is the highest, while in high-income countries, the rate of return on higher education is relatively higher, reflecting the need for optimization of education structure in different economic stages [3-5].

Building on these global findings, it is evident that education systems across regions function differently depending on their economic and institutional contexts. Among them, the education systems of China and North America—particularly Canada—present distinct contrasts in terms of governance models, teaching structures, and investment approaches. These differences offer valuable insights into how education contributes to economic development under varying national conditions. Therefore, this paper aims to conduct a comparative analysis of the Chinese and Canadian education systems, focusing on their policy frameworks, structural organization, quality assurance mechanisms, and future development challenges, to better understand education's role in driving inclusive and sustainable economic growth.

2. Educational system and policy

2.1. Education system

China carries out nine-year compulsory education, covering six years of primary school and three years of junior high school. The government provides free education for all children of school age. Although the senior high school (regular high school or vocational high school) is subsidized by the government, part of the tuition fee still needs to be paid. In addition, China has vigorously developed higher education in recent years, expanding the enrollment of colleges and universities to meet the needs of economic development.

Canada implements an education system from Kindergarten to Grade 12 (K-12), which covers the primary and secondary levels of free education. The system is characterized by a high degree of localization, with provinces responsible for setting curriculum standards, teacher certification and evaluation systems. Canadian high school graduates are required to meet provincially-specific credit requirements and pass the corresponding exams to obtain a high school diploma [6].

In general, China's education system is more centralized and unified across the country, while Canada's education system is more flexible and emphasizes a local management mode.

2.2. Management mode

China's education is managed by the central government and implemented by local governments. The national college entrance examination system is the core of China's education system and determines a student's chances of getting into university. Although some provinces have implemented independent propositions in recent years, on the whole, the college entrance examination is still an important way for the national unified selection of talents. In addition, the Chinese government also has strong control over the allocation of educational resources, such as the "double-reduction policy" aimed at reducing the extracurricular burden of primary and secondary school students and improving the fairness of education in the compulsory education stage [7].

Canada implements provincial autonomy, and each province manages education affairs independently. For example, students in Ontario are required to complete the Ontario Secondary

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School Diploma (OSSD), while Quebec operates the General and Professional College (CEGEP) system as a transition between high school and university. Since there is no unified national college entrance examination, Canadian university admission is mainly based on multiple criteria such as Grade 12 scores, extracurricular activities, and recommendation letters, and university enrollment is more flexible [8].

From the perspective of management mode, China's education policy is more inclined to national unified planning to ensure fairness, while Canada's education management emphasizes local autonomy to adapt to the needs of different regions.

2.3. Public expenditure

Although China and Canada differ significantly in economic scale, the proportion of GDP devoted to education in both countries is relatively close. According to the data from World Bank, from 2013 to 2022, Canada has maintained education expenditure at approximately 5% of its GDP, while China has consistently allocated slightly over 4%. This indicates that both countries assign comparable importance to education in terms of fiscal commitment, despite differences in their governance and education systems.

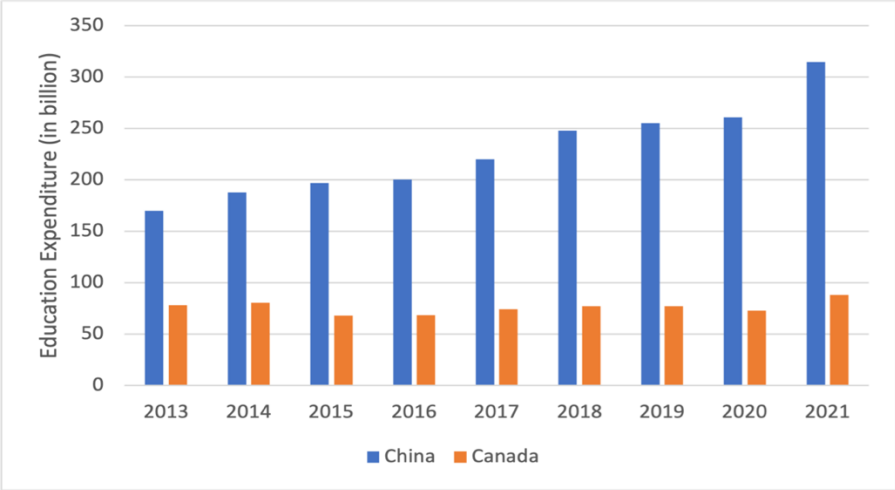

Figure 1: Annual education expenditure in China and Canada (data from: world bank)

However, as shown in Figure 1, although Canada spends a higher proportion of its GDP on education, China's total expenditure on education is much higher than Canada's, because China's total GDP far exceeds Canada's. China's annual investment in education has reached $170 billion since 2013, and increased year by year until it reached more than $300 billion by 2022. Canada, on the contrary, is growing steadily at around $70 billion a year.

3. Teaching mode and resource allocation

3.1. Teaching mode

The exam-oriented pressure of Chinese education is gradually approaching the concept of quality-oriented education, while Canadian education always emphasizes the natural development of students' interests and abilities.

China's traditional education structure has long been based on exam-oriented education, especially the "college entrance examination" as the center of the education orientation, so that the classroom teaching often focuses on knowledge memorization, repetitive training and test-taking skills.

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However, with the promotion of education reform in recent years, China has begun to transition to "quality education," emphasizing students' innovative ability, comprehensive literacy and practical ability. The Ministry of Education proposed to "reduce the burden and improve the quality," promote curriculum diversification, teaching interaction, and encourage exploratory learning and the cultivation of comprehensive ability.

In contrast, Canada's teaching philosophy is freer and more open, advocating the concept of "learning through playing," especially at the primary school level, emphasizing interest-driven, project-oriented learning and interdisciplinary integration. Canadian schools emphasize the holistic development of critical thinking, collaborative skills, social engagement and mental health, rather than single academic achievement. The curriculum pays more attention to students' independent choice, that the curriculum evaluation system is more diversified, and the future development is not determined by a national exam [9, 10].

3.2. Education resource

There is still a big gap in the allocation of educational resources between urban and rural areas in China. First-tier cities and developed regions have high-quality teachers, advanced teaching equipment and abundant educational input, while schools in rural or remote areas face teacher shortages, poor teaching quality and learning environments. This structural inequality leads to significant differences in the starting point of education for urban and rural students. Although the state is promoting the equalization of education resources (such as the "strong foundation plan" and "East-West pairing assistance"), it is still difficult to completely eliminate the gap in the short term.

Compared with the imbalance between urban and rural education faced by China, Canada has accumulated relatively mature institutional experience in realizing educational equity and resource allocation. Canada has achieved relatively balanced development through uniform provincial standards, local financial support, and a "need-based allocation" mechanism for education grants. No matter in urban or rural areas, students can receive more consistent curriculum quality and teaching services. At the same time, Canada ensures the equality of education in remote areas through distance education, teacher rotation training, community support services and other means. For example, indigenous and remote community schools also have access to specialized cultural curricula and psychological support resources [11].

4. Education quality and future development

4.1. Teacher qualification and education quality

In China, the teacher certification system adopts a unified national standard, and teachers are selected through the National Teacher Qualification Examination (NTCE). Teachers at the basic education level are required to pass a written test, an interview and a Mandarin proficiency test, and complete an educational internship to be qualified. The 14th Five-Year Plan for the Construction of Teachers of the Ministry of Education proposes to comprehensively improve the overall quality of teachers and the quality of education by 2025, and achieve "the balance of quality teacher resources." However, due to unbalanced regional development, the difference in teacher quality between urban and rural areas is still significant, and rural areas have problems such as low education, high mobility and insufficient training. To this end, the state has launched the "National Training Program" for primary and secondary school teachers, to strengthen continuing education and professional development support for teachers in the central and western regions.

Canada implements the provincial teacher certification system, and each province has its own certification standards and training system. In Ontario, for example, teachers must complete a two-year teacher education program and register as a member of the Ontario College of Teachers (OCT).

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The curriculum emphasizes teaching practice, psychological development, inclusive teaching and anti-racial education. In addition, teachers are required to undertake continuous professional development, and the provincial Department of Education often provides training subsidies to encourage teachers to participate in educational innovation. The overall education level of Canadian teachers is relatively high, most of them have a bachelor's degree or above, and professional ability is significantly related to classroom quality [12].

4.2. Advanced education and employment directions

Since 1999, China has implemented the policy of university enrollment expansion, and the gross enrollment rate of higher education has risen rapidly to 59.6% in recent years as 2022, forming a pattern of "popular higher education." However, the problem of disconnection between college training and industrial demand is still prominent, resulting in "difficult employment" as a structural problem. The supply of graduates exceeds the demand, especially the employment pressure of liberal arts and traditional disciplines, while there is a relative shortage of highly skilled talents and talents in emerging industries. In recent years, policy orientation has encouraged the development of vocational education and application-oriented colleges and universities, such as the "vocational education college entrance examination" and the "double first-class" construction. The Opinions on Promoting the High-quality Development of Modern Vocational Education propose that, by 2025, the proportion of vocational undergraduate education in the higher education system should be significantly increased.

Higher education in Canada operates in parallel with the university and college systems. Universities focus on academic research and professional training, while "College" (community college) is more skills-oriented, often cooperating with enterprises to set up courses, emphasizing on internship in the curriculum design (so called "Co-op") and practical experience. For example, the University of Waterloo has deep cooperation with technology companies such as International Business Machines Corporation (IBM) and Google, and students can accumulate work experience during their studies. The career plan is clear, and the employment rate of graduates is high. In addition, the Canadian government actively develops a "skilled immigration policy" to connect college graduates closely with the labor market. Data from Statistics Canada shows that Co-op program participants have significantly higher post-graduation employment rates than regular program students [13, 14].

5. Conclusion

Through the comparison of the education system, management mode, teaching structure, higher education quality and teacher training of China and Canada, it can be seen that although the two countries have their own characteristics in the system structure and development path, they are both committed to promoting social development and personnel training through education. China's education system is based on unified national standards. In recent years, China has actively promoted the transition from exam-oriented education to quality-oriented education, endeavoring to narrow the gap between urban and rural education and improve the quality of higher education. Canada, on the contrary, relies on the provincial autonomous system to build a more flexible, diversified education system that emphasizes students' subjectivity, and has outstanding performance in the fairness of basic education and the combination of colleges and industries.

However, each country also faces different educational challenges. While China continues to expand the coverage of education, it still faces such practical problems as the imbalance of educational resources between urban and rural areas, the mismatch between higher education and the labor market, and the large regional differences in the quality of teachers. With the change of

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population structure, China also needs to strengthen the system layout of preschool education, lifelong education and vocational education in the future.

Although Canada has a superior performance in education equity, it also faces the challenges of relying on local finance for education funding, insufficient teachers in remote areas, and excessive dependence on international students. At the same time, in the context of globalization, how to maintain the international competitiveness of Canadian higher education and enhance the participation of indigenous groups in education has also become an important direction of policy attention.

To sum up, the educational practices of China and Canada provide different development models for the global educational development. In the future, in the face of new technological changes, demographic changes and the impact of globalization, both countries need to continue to adjust their education policies and strengthen the resilience and adaptability of their education systems to achieve more equitable, high-quality and sustainable education development.

References

[1] *Schultz, T. W. (1961) Investment in human capital. The American Economic Review, 51(1), 1–17.*

[2] *United Nations. (2006) The Millennium Development Goals Report. New York: United Nations Publications. Retrieved from: https://www.un.org/millenniumgoals/*

[3] *Barro, R. J. (1991) Economic Growth in a Cross Section of Countries. Quarterly Journal of Economics, 106(2), 407–443.*

[4] *Hanushek, E. A. and Woessmann, L. (2008) The Role of Cognitive Skills in Economic Development. Journal of Economic Literature, 46(3), 607–668.*

[5] *Psacharopoulos, G. and Patrinos, H. A. (2018) Returns to Investment in Education: A Decennial Review of the Global Literature. The World Bank Economic Review, 32(2), 383–417.*

[6] *Chang, S. (2024). East Meets West: A Comparative Analysis of The Chinese and American Education Systems. Research Archive of Rising Scholars, 2024(01), 1-12.*

[7] *Liu, J. and Bray, M. (2024) Examining China's 'Double Reduction' Policy: Rationales and Realities. ECNU Review of Education, no. 20965311241265123.*

[8] *Kuehn, L. (2019). Education in Canada: Provincial Fact Sheets. Canadian Centre for Policy Alternatives. Retrieved from https://www.policyalternatives.ca/publications/reports/education-canada*

[9] *Tang, T., Aldhaeebi, M. A., Lan, J. Q. and Bamanger, E. (2020) Comparison of the Graduate Education between Canada and China. International Journal of Higher Education, 9(4), 13–26.*

[10] *Zhao, N. (2023) Comparison of Secondary Education Systems between China and Canada. International Journal of Education and Learning, 5(2), 45–60.*

[11] *Li, J. (2019) Exploring Teacher Education in the Context of Canada and China. Journal of Comparative Education, 15(3), 210–225.*

[12] *Wang, L. (2020) Grading Policies in Canada and China: A Comparative Study. Canadian and International Education, 47(1), Article 5,1-24.*

[13] *Lang, D. W. and Zha, Q. (2004) Comparing universities: A case study between Canada and China. Higher Education Policy, 17(4), 339-354.*

[14] *Zhang, W. (2020). Comparative Analysis on Chinese and Canadian Primary School Mathematics Estimation Education. Proceedings of the International Conference on Education Research and Reform (ERR 2020), 125–130.*