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Education and Human Capital Development in Georgia: Challenges and Opportunities

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A R T I C L E I N F O

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A B S T R A C T

Human capital is a key determinant of economic development, productivity, and employment, with education as a principal foundation. This issue is particularly relevant for Georgia amid technological change, evolving labor market requirements, and migration processes.

The study aims to assess the relationship between education and human capital development in Georgia and to identify the major challenges and development opportunities. The study uses secondary quantitative and qualitative data from the National Statistics Office of Georgia, the World Bank, the International Monetary Fund (IMF), and official sources of education in Georgia. The study employs descriptive, comparative, and analytical methods. The analysis focuses on four dimensions: access to and quality of education, skills development, the alignment between education and labor market needs, and the utilization of human capital.

The findings indicate that, despite expanded participation in education in Georgia, education quality, the development of modern and vocational skills, and the alignment of these skills with labor market requirements remain significant challenges. According to the World Bank's 2026 Human Capital Index Plus (HCI+), Georgia scores 215 out of 325 points, compared with the regional average of 240 points for Europe and Central Asia. Georgia's education component score is 132, while its employment component score is 38, compared with regional averages of 146 and 48, respectively.

The study concludes that strengthening human capital development in Georgia requires greater integration of education, skills development, and employment policies; enhanced vocational and digital skills; expanded opportunities for lifelong learning; and policies that promote the more productive use of human capital.

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INTRODUCTION

Human capital is a fundamental determinant of contemporary economic development, productivity, employment, and competitiveness. It encompasses the knowledge, skills, health, and individuals' work experience that collectively shape their productive capabilities and potential to generate income. Within this framework, education constitutes one of the principal mechanisms through which human capital is formed and enhanced (World Bank, 2026).

Under conditions of rapid technological transformation and profound changes in labor market requirements, expanding access to education alone is no longer sufficient. Increasing importance is being attached to education quality, the development of contemporary and vocational skills, the alignment of skills with the evolving economy's needs, and the effective use of accumulated human capital in productive employment. Accordingly, education, skills, and employment should be viewed as interconnected components of a broader human capital development process. The assessment of human capital development should therefore not be confined to educational attainment or years of schooling alone.

In recent years, Georgia has gradually expanded participation in education. According to data from the National Statistics Office of Georgia (Geostat), the number of students enrolled in general education institutions increased from 592.9 thousand in 2019 to 644.2 thousand in 2025, while the number of students in higher education institutions increased from 148.8 thousand to 195.4 thousand over the same period (Geostat, 2026a). This trend indicates broader participation in education; however, enrollment increases do not necessarily translate into improvements in human capital quality or economic effectiveness.

In the Georgian context, this issue is particularly important given the persistent mismatch between education and labor market requirements. According to an IMF study published in 2026, in 2024, 27% of prime-age workers and 36% of young people possessed a level of education that exceeded the requirements of their jobs. Furthermore, about 40% of employed individuals with higher education were working in medium- or low-skilled occupations, while only around one-third were employed in positions aligned with their field of education and professional training. The study also identified shortages of technical and job-specific skills, particularly in high-skilled sectors (Atsebi & Ture, 2026).

Thus, the challenge extends beyond the quantitative expansion of the education system. A central issue is the extent to which education-acquired knowledge and skills are relevant to and productive in employment. Weak linkages between education and the labor market increase the risks of overeducation and skills mismatch and, consequently, constrain the effective utilization of human capital. This issue is particularly significant in an environment where demand for technical, vocational, and advanced digital skills is increasing across several sectors of the economy.

The World Bank's Human Capital Index Plus (HCI+) provides a broader perspective on human capital development, extending beyond education to

incorporate health, employment, and work experience. According to the 2026 data, Georgia's HCI+ score is 215 out of 325, below the Europe and Central Asia average of 240. The World Bank estimates that a 10-point improvement in the index is associated with approximately 10% higher future earnings. Moreover, reducing Georgia's existing gaps relative to high-performing countries with similar income levels could increase future income by 36% (World Bank, 2026). These estimates suggest that improving human capital quality is not merely a matter of social policy; it also represents a substantial source of economic potential.

Against this background, Georgia's principal challenge is no longer limited to expanding access to education. Equally significant is the extent to which the education system enables individuals to acquire the skills demanded by a modern economy and to be relevant to and productive in employment. Precisely, the interrelationship among education, skills, employment, and the utilization of human capital constitutes the central analytical focus of this study.

THE STUDY AIMS to assess the relationship between education and human capital development in Georgia and to identify the key challenges and development opportunities.

To achieve this objective, the study addresses the following research questions:

1. What are the major trends in education and human capital development in Georgia?
2. What factors constrain the effective development and productive use of human capital?
3. To what extent do the skills acquired through the education system align with labor market needs?

What opportunities exist to strengthen the integration of education, skills, and employment?

LITERATURE REVIEW

Contemporary research on human capital regards education as a significant mechanism for accumulating knowledge, skills, and productive capacities. At the same time, assessing human capital is no longer limited to the duration of education, with increasing attention being paid to education quality, the skills actually acquired, and their economic utilization. A study based on data from 141 developed and developing countries found that the impact of human capital on economic growth depends on both its quantitative and qualitative characteristics (Sultana et al., 2022). This approach is also reflected in the World Bank's Human Capital Index Plus, which, alongside education, considers employment and workplace learning (World Bank, 2026).

Education quality and skills development are important prerequisites for the economic efficiency of human capital. According to the contemporary approach, assessing educational outcomes solely by educational attainment or years of schooling is insufficient - as is the extent to which acquired knowledge and competencies meet professional requirements. Studies of Georgia's state

policy on higher education likewise point to the importance of education quality, policy, and financing (Giguashvili & Makasarashvili, 2020).

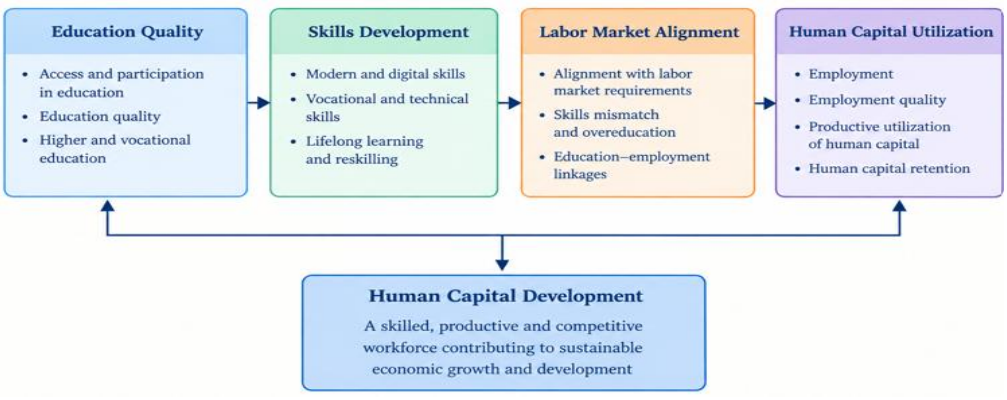
Higher and vocational education are significant in human capital formation. Vocational education helps develop practical skills and increases employability; however, its effectiveness depends on its cooperation with employers and the alignment of educational programs with labor market requirements (Giguashvili, 2023b). At the same time, technological changes increase the importance of digital skills and continuous reskilling. Studies conceptualize digital competencies as multidimensional skills and indicate that their development should consider both technological knowledge and the specific work environment and professional context (Mendoza-Chan & Pee, 2024; Audrin et al., 2024). In the Georgian context, this area is complemented by studies on artificial intelligence, digital citizenship, and media literacy (Makasarashvili & Giguashvili, 2024a, 2024b, 2024c).

Another important area of the literature concerns the alignment between education and the labor market. Expanded education does not ensure effective utilization of human capital if qualifications and skills do not meet job requirements. Studies show that education–job mismatch affects efficient workforce allocation and employment quality (Beręsewicz et al., 2024). In Georgia, recent studies confirm the problem, pointing to significant skills mismatch and overeducation (Atsebi & Ture, 2026).

Thus, the literature considers human capital development as an interconnected process involving education quality, skills, vocational and higher education, digital competencies, and alignment with the labor market. Existing studies on Georgia primarily examine these issues separately, whereas the present study considers them within a unified analytical framework.

Based on the reviewed literature and the analytical dimensions of the study, a conceptual framework is developed to illustrate the interrelationship between education quality, skills development, labor market alignment, and human capital utilization. The framework reflects the study's central assumption that effective human capital development depends not only on participation in education but also on the quality and relevance of acquired skills, their alignment with labor market requirements, and their productive utilization.

Figure 1. Conceptual Framework



Source: Developed by the author based on the study's analytical framework.

METHODOLOGY

The study uses secondary quantitative and qualitative data and employs descriptive, comparative, and analytical methods. The main sources include the National Statistics Office of Georgia (Geostat), the World Bank, the International Monetary Fund (IMF), official Georgian education sources, and recent academic literature. The sources were selected on their relevance, reliability, and consistency with the study objectives.

The study focuses on the interrelationship between education and the labor market in Georgia. The analysis covers four main areas: access to and quality of education; skills development; the alignment between education and labor market requirements; and opportunities for human capital utilization and development. The analysis examines quantitative data over time and, where possible, compares them with international and regional indicators. Qualitative data and the academic literature analysis are used to interpret quantitative trends and identify the main challenges.

The comparative method was applied to examine changes in key education and labor market indicators over time and, where comparable data were available, to identify differences between Georgia and relevant regional or international benchmarks. The analytical method was used to interpret these differences and trends by examining their implications for skills development, education–labor market alignment, employment, and human capital utilization, rather than establishing direct causal relationships. The use of secondary, mainly macro-level data provides broad evidence on national trends but limits the ability to capture micro-level experiences, institutional practices, and individual-level factors. Therefore, the findings are interpreted within the scope of the available secondary evidence and do not claim to provide a detailed qualitative assessment of micro-level processes.

The study's conclusions are based on a comparison and synthesis of data obtained from various sources, identified trends, and the findings across the four analytical areas. This approach makes it possible to assess not only the quantitative development of education but also its relationship with skills formation, employment, and the productive utilization of human capital.

RESEARCH FINDINGS AND DISCUSSION

General State of Human Capital Development in Georgia

The research findings show that the trend toward the quantitative expansion of Georgia’s education system has continued in recent years. According to Geostat data, the number of pupils in general education institutions increased from 592.9 thousand in 2019 to 644.2 thousand in 2025, while the number of students in higher education institutions increased from 148.8 thousand to 195.4 thousand. Accordingly, between 2019 and 2025, the number of higher education students increased by approximately 31.3% (Geostat, 2026a). However, increased participation in education does not itself ensure improved human capital or economic efficiency. International studies likewise indicate that

the impact of human capital on economic development depends significantly on its qualitative characteristics (Sultana et al., 2022).

The World Bank's Human Capital Index Plus (HCI+) 2026 provides a broader assessment of Georgia's human capital development state. Georgia's HCI+ score is 215 out of 325 points, while the average score in Europe and Central Asia is 240 points. Georgia's education component is 132 points, while its employment component stands at 38 points; the corresponding regional averages are 146 and 48 points, respectively (World Bank, 2026). These indicators suggest that Georgia faces challenges not only in expanding access to education but also in effectively utilizing acquired knowledge and skills in the labor market.

According to the World Bank, a 10-point improvement in the HCI+ is associated with approximately 10% higher future earnings. Moreover, reducing the existing human capital gap between Georgia and high-performing countries with similar income levels could increase Georgia's future income by 36% (World Bank, 2026). These estimates point to significant economic potential in the qualitative development of human capital. Accordingly, the effectiveness of investments in education should be assessed not only by expanding access to educational opportunities, but also by examining how acquired knowledge and skills transform into opportunities for increased employment and productivity.

Education–Labor Market Alignment

One of the main study findings is the discrepancy between the quantitative expansion of the education system and the extent to which the resulting human capital is utilized in the labor market. According to an IMF study published in 2026, in 2024, 27% of prime-age workers and 36% of young people had a higher education level than their jobs demanded. At the same time, about 40% of prime-age workers with higher education were employed in medium- or low-skilled occupations. Only about one-third were employed in jobs corresponding to their professional training (Atsebi & Ture, 2026).

This problem has also been identified in Georgia's education policy. The National Concept for the Reform of the Higher Education System emphasizes the weak link between the education system and the labor market and the need to improve educational programs to align with current and future demand (Ministry of Education, Science and Youth of Georgia, 2025). These findings also align with international research, linking education–job mismatch to inefficient workforce allocation and employment quality (Beręsewicz et al., 2024).

The significant manifestation of skills mismatch in Georgia is the simultaneous presence of an overqualified workforce in certain positions and shortages of technical and job-specific skills in highly qualified sectors, including ICT, finance, science, and professional activities (Atsebi & Ture, 2026). Accordingly, education policy objectives should not be limited to increasing educational attainment; it should also focus on developing skills that meet labor market requirements and linking them to productive employment.

Employment as an Indicator of Human Capital Utilization

Employment is an important indicator of human capital utilization. According to Geostat data, Georgia's unemployment rate decreased from 17.3%

in 2022 to 13.9% in 2024 and remained at 13.9% in 2025. In the first quarter of 2026, unemployment stood at 14.4%, while in the second quarter it was 13.8%. The number of employed persons increased from 1,283.7 thousand in 2022 to 1,402.5 thousand in 2024; however, it decreased to 1,389.7 thousand in 2025 and to 1,365.2 thousand in the second quarter of 2026 (Geostat, 2026b).

The decline in unemployment represents a positive trend; however, quantitative employment indicators cannot fully reflect the quality of human capital utilization. Giguashvili and Salkhinashvili (2025) identify unemployment, labor migration, and the effective utilization of human capital as major challenges facing Georgia's labor market. At the same time, the IMF identified overeducation, noting that a proportion of employed persons work in positions that do not meet their education and qualifications (Atsebi & Ture, 2026).

Accordingly, when assessing human capital development, it is important to consider not only the number of employed persons but also employment quality, the correspondence between employment and qualifications, and productivity. This approach is consistent with the HCI+ concept, which incorporates employment and work experience alongside education in assessing human capital (World Bank, 2026).

In the context of human capital utilization, labor and international migration are also important considerations. In Georgia, migration processes affect both the workforce distribution and the country's capacity to utilize and retain the human capital accumulated within the country. Giguashvili et al. (2023) emphasize the need for mechanisms to manage circular labor migration in Georgia, while Giguashvili (2023a) identifies human resources outflow and its associated socioeconomic consequences as a key challenge of international migration. Accordingly, human capital development policy should consider not only expanding educational and employment opportunities but also effectively utilizing and retaining a qualified workforce.

The Role of Vocational Education in Human Capital Development

Vocational education can play a crucial role in linking education and the labor market, particularly as Georgia simultaneously faces an oversupply of individuals with higher education for certain jobs and shortages of technical skills (Atsebi & Ture, 2026). According to the IMF, in 2024, about 30% of employed persons with vocational education engaged in jobs requiring higher-level qualifications. This indicator reflects the economic utilization of the skills of individuals with vocational education; however, in itself, it does not establish a causal effect of vocational education on the qualification level of employment (Atsebi & Ture, 2026).

In the Georgian context, bringing vocational programs closer to labor market requirements, strengthening practical training, and increasing employer involvement are considered significant directions for vocational education reform (Giguashvili, 2023b). Accordingly, vocational education can be viewed not only as an alternative to higher education but also as an essential mechanism for workforce reskilling and adaptation to changing demands of the economy.

Digital Skills and Opportunities for Human Capital Development

Technological changes increase the importance of digital skills and continuous reskilling. Mendoza-Chan and Pee (2024) emphasize the need for workforce adaptation to the digital environment and continuous reskilling, while Audrin et al. (2024) conceptualize digital competence as a multidimensional skill that extends beyond using technological tools alone.

For Georgia, this area is particularly relevant given the growing adoption of artificial intelligence and digital technologies. Studies of Georgia's educational environment point to opportunities for using artificial intelligence and the importance of developing digital citizenship (Makasarashvili & Giguashvili, 2024b, 2024c). At the same time, digital competencies development should also encompass media literacy and the ability to evaluate information critically (Makasarashvili & Giguashvili, 2024a).

Thus, digital skills development represents an important opportunity to improve human capital in Georgia qualitatively. Realizing this potential requires not only access to technologies but also the development of appropriate educational programs, reskilling initiatives, and mechanisms for lifelong learning.

CONCLUSION AND RECOMMENDATIONS

The study shows that, despite increased participation in education in Georgia, the major challenges in human capital development remain education quality, the development of modern and professional skills, their alignment with labor market requirements, and the productive utilization of accumulated human capital. Of particular concern are skills mismatch, overeducation, and shortages of technical skills, which indicate the need to strengthen the existing links between the education system and employment.

The study findings also demonstrate that the quantitative expansion of education cannot ensure effective utilization of human capital. Despite the decline in unemployment, a mismatch between qualifications and employment still exists. Under these conditions, vocational education development and practical and technical skills can play an important role in establishing stronger links between education and the labor market. At the same time, technological changes are increasing the importance of digital, AI, and lifelong learning skills.

To strengthen human capital development, the following measures are recommended:

- Strengthening the link between education and the labor market - ensuring closer alignment of educational programs with current and projected labor market requirements;
- Developing vocational and technical skills - expanding practical training, employer involvement, and work-based learning;
- Integrating digital and AI competencies into education - developing media literacy and critical information assessment skills alongside the use of modern technologies;
- Expanding opportunities for lifelong learning and reskilling - facilitating the adaptation of the workforce to technological and structural changes;

- Improving employment-support mechanisms - strengthening career counseling, internships, job matching, and cooperation with employers.

Ultimately, Georgia's priority should be to develop a more integrated system of education, skills development, and employment policy that channels the knowledge and skills accumulated through education into relevant and productive employment and, ultimately, into opportunities for economic development. Such an approach would shift human capital development from a narrow education policy objective to the broader dimensions of economic development.

This study has several limitations. First, it relies primarily on secondary, macro-level data, which limits the ability to capture individual experiences, institutional practices, and firm-level or household-level factors affecting human capital development. Second, differences in definitions, coverage, and reporting periods across data sources may limit the direct comparability of some indicators. Third, the study uses descriptive, comparative, and analytical methods and therefore identifies patterns and relationships but does not establish causal effects between education, skills, employment, and human capital outcomes. These limitations should be considered when interpreting the findings and indicate the need for more detailed micro-level and sector-specific research.

Future research could focus on sectoral assessments of the alignment between education and employment; the interrelationship among NEET youth, digital skills, labor migration, and human capital productivity; and quantitative assessment of the economic returns to different levels of education.

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