

HARNESSING PEER-TO-PEER LEARNING FOR LIFELONG LEARNING AND GOVERNANCE TRANSFORMATION: INSIGHTS FROM THE CIS REGION

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ABSTRACT

In today's increasingly interconnected and rapidly evolving world, shaped by digital innovation, climate challenges, and shifting socio-economic landscapes, the importance of continuous learning and adapting to new realities has never been more apparent. This complex and fragile environment underscores the urgent need to equip individuals, especially adults, with the skills, flexibility, and mindset necessary to thrive in a dynamic labor market and digital economy. In response, governments worldwide are prioritizing lifelong learning (LLL) by developing related strategies and investing in the continuous human capital development.

This article explores the role of Peer-to Peer (P2P) learning as a meaningful driver of adult lifelong learning. It examines how P2P learning network supports professional development, promotes innovation, and contributes to scalable changes across diverse professional and institutional settings. Drawing on qualitative interviews with civil servants from CIS countries (Azerbaijan, Georgia, Kazakhstan, and Kyrgyzstan), the study offers insights into how P2P learning enhances experience exchanging, cross-border collaboration, and accelerates change in governance.

The article concludes with recommendations for embedding P2P learning into lifelong learning strategies, emphasizing its potential to drive innovation and support continuous capacity development across institutions and beyond.

Keywords: Peer-to-peer learning, lifelong learning, governance innovation, digital transformation, CIS region, capacity development.

BACKGROUND AND LITERATURE REVIEW

The accelerating pace of digital transformation, coupled with global challenges like climate change, labor market shifts, and socio-political instability, has intensified the demand for institutional resilience and adaptability. In today's unpredictable environment, characterized by the BANI framework, technologies such as AI, big data, and automation are rapidly reshaping governance systems while opening up new opportunities (Sridharan, 2021).

These shifts mark the beginning of the Fifth Industrial Revolution, centered on human-technology collaboration to improve environments, optimize processes, and achieve better outcomes (George Shaji & George, 2020). Therefore, it is crucial for humanity to acquire new skills, enhance digital literacy, and build resilience to navigate an unpredictable and rapidly changing world. Meeting these demands requires a fundamental transformation in how individuals, institutions, and governments develop capabilities, promote adaptability and continuous learning.

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In this line, lifelong learning (LLL) has emerged as a crucial strategy for promoting individual adaptability, institutional innovation, and societal cohesion. It goes beyond formal education, supporting ongoing cognitive, digital, and social-emotional skills development across various stages of life and learning settings (UIL, 2022).

Scholars emphasize LLL as a key driver of adaptability in the modern world. Tummons and Powell (2014) highlight it as a means to enhance employability through continuous retraining and professional development, while Holford and Mohorcic-Spolar (2012, cited in Boeren, 2016, p. 12) frame it as critical to success in a knowledge-driven economy and global market. Field (2001 cited in O'Grady, 2013, p. 5) further emphasizes its role in modernizing national education systems and governance structures. These insights reinforce the broader understanding of LLL as not only a personal benefit, but also a strategic imperative for societies adapting to rapid change.

Building on this academic foundation, international institutions such as the United Nations, UNESCO, the OECD, and the EC have played a pivotal role in promoting LLL globally. Through strategic frameworks, policy guidance, and cross-national collaboration, they have positioned LLL as fundamental to economic resilience, democratic participation, and social inclusion. The ILO further expands this vision by underscoring that lifelong learning goes beyond economic goals, promoting dignity, human rights, and supportive environments for well-being (ILO, 2019).

The concept of lifelong learning has been further enriched by countries that have successfully adopted strategies, integrating it into broader human capital development frameworks. It is advocated by Sustainable Development Goal 4, which promotes inclusive, equitable quality education and lifelong learning opportunities for all (UN, 2015).

However, despite global momentum, some countries, including those in the Commonwealth of Independent States (CIS), continue to face common barriers to effective LLL implementation that should be addressed collectively. These collective efforts will open the path to swiftly uncovering strategic directions and innovative approaches for progress. Therefore, new learning and collaboration mechanisms are needed, ones that go beyond traditional top-down models and can catalyze LLL in a more inclusive, cooperative, and sustainable manner.

THE CIS CONTEXT

LLL approaches are relatively new in the Commonwealth of Independent States (CIS). Since gaining independence in 1991, the countries of the region have generally followed similar political and economic trajectories, while implementing partially aligned reforms in their education systems. In recent years, several CIS countries have taken important steps to promote lifelong learning.

Since 2010, multiple CIS countries have institutionalized lifelong learning through national education strategies and the adoption of National Qualifications Frameworks (NQFs). For example, Georgia introduced its NQF in 2010 and revised it in 2019 to strengthen LLL provisions (EACEA, 2022). Kazakhstan adopted its NQF in 2012 and later approved the Concept of Lifelong Learning in 2021 (Adilet, 2021; Carlsen, 2020). The Kyrgyz Republic adopted its Education Development Concept in 2012 and, in 2021, launched a comprehensive Programme of Education Development for 2021–2040 (MinJust, 2021; Carlsen, 2020). Azerbaijan approved its Education Development Strategy in 2013 and aligned the NQF with the European Qualifications Framework in 2018.

While notable efforts have been made, there remains a pressing need to strengthen transnational cooperation and learning. The urgency of this need is underscored by data from the UNESCO Institute for Statistics (2022), which reveals significant disparities in tertiary education enrolment across CIS countries. While enrolment in primary and secondary education remains high, ranging from 86% to 97%, participation in tertiary education, including post-secondary and vocational programmes, varies significantly between 35% and 70% (Table 1). This highlights a notable gap in adult learning that requires more coordinated joint efforts.

Table 1. Participation in Lifelong Learning (Net enrolment rate - percent).

Country	Primary Education in 2020	Secondary Education in 2020	Tertiary Education in 2020
Azerbaijan	88.2	86.9	35.2
Georgia	97.8	95	66.7
Kazakhstan	87.7	97	70.7
Kyrgyzstan	90	87	46.5

Source: UNESCO Institute of Education. Reference source not found.

In addition, Kazakhstan's Concept of Lifelong Learning (Adilet, 2021) highlights that over 50% of jobs in the country are at risk of automation – exceeding the OECD average of 47%. Also, among adults aged 16–65, Kazakhstan's participation in non-formal education is significantly lower, approximately three times less than the OECD average of over 50%. According to the PIAAC (2019) survey, nearly half of Kazakhstani adults demonstrate only basic proficiency in literacy and numeracy. These challenges are mirrored across the region, where low engagement in non-formal education and limited digital skills hinder workforce readiness.

These issues are compounded by a range of barriers identified by researchers. These include situational challenges stemming from personal circumstances, dispositional barriers such as low self-confidence and psychosocial factors, and institutional hurdles like high costs or inadequate learning conditions (Boeren, 2016). Moreover, misalignment between curricula and learners' expectations (Evans, 2003) and issues related to learner motivation (Scales et al., 2011) further contribute to the problem. These patterns are reflected in the OECD (2020) study, which found that 28% of adults were unable to participate in training due to time constraints, 15% cited family responsibilities, 16% faced financial constraints, and 12% reported inconvenient timing and location of training.

All these data emphasize the urgent need to strengthen the lifelong learning system in the region, given its shared challenges. This, in turn, calls for the adoption of innovative methods to enhance intergovernmental cooperation in effectively addressing emerging issues. Thus, transnational learning can help countries identify common needs, develop effective practical solutions, establish standards, and accelerate reforms to better prepare citizens for the future labor market

Peer-to-Peer (P2P) learning has emerged as a promising mechanism. Grounded in principles of reciprocity, mutual learning, and shared problem-solving, P2P learning facilitates horizontal knowledge exchange among practitioners. It empowers professionals to share experiences, develop trust-based networks, co-create solutions, and transfer insights across borders, sectors, and systems supporting broader reforms (Andrews & Manning, 2016). Consequently, it supports the formation of a collective purpose and institutional development, revitalizes

motivation, and enhances the impact of LLL, which can be applied in diverse fields, including governance, education, and healthcare.

To better understand its nature, it's useful to examine the features and compare them with other professional learning models.

- Intergovernmental Networks (IGR) bring together public and private actors to collaboratively address cross-border challenges, focusing more on joint problem-solving than mutual learning (Voets & Rynck, 2008).
- Collaborative Learning involves shared problem-solving through dialogue and task-based interaction. It prioritizes learner autonomy and equality, though it is mostly used in education and is less structured for policy-level impact (Topping et al., 2017).
- Cooperative Learning is guided by instructors and based on interdependent task-sharing. While it helps build foundational knowledge, its applicability in professional settings is limited (Ashman & Gillies, 2003).
- Communities of Practice (CoPs) involve practitioners engaging in collective learning, gradually moving from peripheral participation to full involvement in developing and applying shared knowledge. (Le May, 2008; Koike & Blyth, 2015).
- Communities of Professionals unite domain-specific experts who uphold shared standards, values, and expertise, reinforcing professional identity and advancing collective knowledge (Goode, 1957, cited in Le May, 2008, p. 70).

A comparative overview in Table 2 highlights the structural and functional distinctions between these learning networks.

Table 2. Comparison of Various Networks' Characteristics.

Feature	P2P Learning	IGR- network	Collaborative learning	Cooperative learning	Community of practice	Community of professionals
Group relationship	Practitioners	State bodies	Education	Education, teachers	Practitioners	Experts
Authority (determined by)	Facilitator or peer	Coordinating organization	Learners	Teacher/facilitator	Coordinator or practitioner	Professional coordinator
Role assigned	Equal roles	Sectoral roles, different subtasks	Equal roles, same task	Equal roles, different subtasks	Equal roles, same task	Equal roles, same tasks/subtasks
Objective	Share knowledge; enhance capacity; solve common issue	Share knowledge; develop/adopt artifacts	Share knowledge; enhance soft skills	Explore materials; obtain knowledge	Share knowledge; solve common issue	Share knowledge; solve common issue
Outputs	Policies, solutions, applied in practice	Policies, solutions, applied in practice	Solutions applied in practice	Solutions	Policies, solutions, applied in practice	Policies, solutions, applied in practice
Structure and Terms	Structured, long-term	Structured, project-based	Flexible, project-based	Structured, task-based	Structured, long-term	Structured, long-term

The table reveals that P2P learning correlates with elements found in IGR-networks, Communities of Practice, and Communities of Professionals.

All these models are underpinned by social learning theory, which views learning as a process shaped by social interaction, observation, and behavioral change, assimilating and imitating it

(Bandura 1977, cited in Alan and Woollard, 2010). Vygotsky's social constructivism theory emphasizes learning through dialogue and collective experiences, while Piaget's theory (1951, 1977) stresses how individuals adapt to new information through cognitive development. Both theories support the role of peer interaction in knowledge acquisition (Topping et al., 2017). Furthermore, P2P learning aligns with constructionist theories such as Papert's concept of "learning-by-making", which emphasizes the value of hands-on, creative engagement in producing practical outputs (Papert, 1991; Kop and Hill, 2008).

Thus, P2P learning represents a versatile, practice-oriented approach that encompasses formal, informal, and workplace-based learning. This makes it particularly relevant within lifelong learning ecosystems, where different learning modes play a key role in achieving enduring and inclusive outcomes.

P2P Learning Alliance

A strong example of such collaboration is the P2P Learning Alliance led by the Astana Civil Service Hub (ACSH). Established in 2013 as a joint initiative of the Government of Kazakhstan and UNDP, ACSH is a multilateral platform that brings together 43 countries and over 90 international organizations, and committed to civil service development through partnerships, research, capacity building, and P2P learning activities with a flexible and demand-driven agenda (ACSH, 2022).

ACSH has initiated four P2P Learning Alliances focused on public service delivery, e-government, transformation of public administration, as well as the application of AI and emerging technologies. These alliances convene representatives from over nine countries and international organizations, serving as effective platforms for experience sharing, collaborative learning, and the co-creation of innovative, context-specific solutions. Acting as a facilitator, ACSH connects decision-makers from public institutions and international partners through regular meetings, study visits, and targeted capacity development activities.

In partnership with the Government of the Republic of Korea, ACSH also implements a three-year project aimed at advancing the capacities of civil servants in digital transformation across 12 countries in Central Asia, the Caucasus, and the Asia-Pacific region. This initiative features P2P-based workshops, conferences, and study visits, complemented by the development of practical knowledge products. These efforts have supported mutual learning, facilitated the transfer of expertise, and strengthened intergovernmental cooperation. The project's success has enabled its geographic expansion from 7 to 12 participating countries and has positioned it as a recognized model of successful international collaboration.

The Government Partnerships International (GPI), based in the UK, is another organization promoting peer exchange by helping partner governments improve public service delivery. Similarly, organizations like the OECD, World Bank, USAID and the European Union support P2P learning as a means to achieve shared development goals.

While the impact of P2P learning is widely acknowledged, it is important to thoroughly consider both its prospects and the challenges in practice. According to Ornemark C. (2020), attention should be given to issues such as the lack of standardization and evaluation of P2P learning, challenges in knowledge transfer and adaptation, as well as financial and organizational barriers. The following sections reveal key aspects and potentials of P2P learning in supporting lifelong learning and transforming government.

RESEARCH METHODOLOGY

To explore these issues in greater depth, this article draws on the findings and empirical materials developed as part of a master's thesis at the University of Nottingham (2021–2022). It is based on a comprehensive literature review and empirical data collected through semi-structured interviews with civil servants from Azerbaijan, Georgia, Kazakhstan, and the Kyrgyz Republic – all actively engaged in the P2P Learning Alliance on e-Government Development, facilitated by the Astana Civil Service Hub (ACSH).

The following findings are derived from the respondents' perspectives on the role and impact of P2P learning, along with the key factors enabling its successful implementation for significant institutional changes.

RESEARCH FINDINGS AND RECOMMENDATIONS

1. Understanding of P2P Learning

Informants shared a common understanding of P2P learning as a practical, non-hierarchical, and experience-based approach rooted in trust and reciprocity. Unlike traditional training, P2P learning enables real-time dialogue among peers, focused knowledge exchange, and mutual learning tailored to local contexts. An official from Azerbaijan emphasized P2P learning as a cost- and time-efficient approach for sharing knowledge across sectors, particularly in digital public service delivery, where the main goal is to serve citizens more effectively. Similarly, participants from Kazakhstan and Georgia underscored that P2P learning allows countries to move faster in their reforms, learn from others' successes and lessons learnt, and adjust ready-to-use tools and practices. Through focused peer dialogue, they stressed the potential of co-creating suitable solutions and accelerating transformation. This understanding is also supported by Andrews and Manning (2016), who describe P2P learning as a powerful approach for policymakers, bringing together well-matched practitioners to exchange best practices and solutions over the medium to long term, with the potential to drive large-scale change.

2. Advantages of P2P Learning

Informants consistently emphasized the value of P2P learning in strengthening decision-making, promoting behavioral change, and building civil servant capacity. They also noted that direct peer engagement fosters idea exchange, shared understanding, and collaborative development of practical solutions. An Azerbaijani official noted that P2P learning fosters mutual understanding – described as “neuro skills” – that supports joint initiatives and solution implementation. A Georgian counterpart highlighted the enduring retention of knowledge gained through face-to-face exchanges and continued communication. In turn, Kazakhstani officials emphasized P2P learning as a strategic tool for long-term reforms, enabling regular exchange meetings, benchmarking, and adaptation of best practices.

3. Contribution to Lifelong Learning

P2P learning is widely recognized by informants as a powerful driver LLL, offering continuous opportunities for skills development, collaboration, and institutional improvement. A representative from Kyrgyzstan noted its role in facilitating communication among state bodies, helping to integrate fragmented efforts into more cohesive and systemic solutions. Respondents from Kazakhstan and Georgia emphasized that P2P learning complements formal civil service training by enabling knowledge transfer through peer networks and practical initiatives. They noted its effectiveness through “learning by doing” and equality principles, which create ripple effects across institutions and broader networks, such as when central-level officials train local counterparts. A respondent from Azerbaijan also

pointed out that this approach is especially effective in expanding digital literacy at the community level, citing trained students by ASAN who volunteer as digital mentors to teach technology skills in rural areas. These perspectives show that P2P learning not only enhances individual and organizational capacities but also fosters trusted partnerships and sustainable reforms that reinforce lifelong learning frameworks.

4. Effective Tools and Modalities

Informants emphasized that the impact of P2P learning depends not only on content but also on the tools used to facilitate exchange. While traditional formats like large meetings and trainings are common, interviewees favored more interactive and targeted approaches such as small working groups, twinning projects, hackathons, field visits, and case-based exchanges. Azerbaijani and Kyrgyz participants highlighted the value of developing joint practical solutions and portfolios that illustrate real-world applications, risks, and successes. Georgian officials noted the effectiveness of collaborative planning with concrete outputs. Overall, tools proved most effective when embedded in long-term, cyclical processes that enable sustained engagement and tailored knowledge adaptation.

5. Barriers to Knowledge Acquisition

Respondents identified several key obstacles to effective P2P learning, including a shortage of qualified experts and challenges in adapting transferred knowledge. They emphasized the need to involve decision-makers in peer exchanges, noting that without authority or influence, participants cannot drive institutional change. Context mismatch and weak cross-sector communication further limit the effective application of shared practices. Additionally, financial constraints were cited as a major barrier to scaling successful peer-based solutions. These challenges underscore the need for strategic participant selection, contextual relevance, and sustained institutional backing.

6. Evaluation and Knowledge Transfer

P2P learning enables valuable exchange, but for greater efficiency, a systematic assessment of knowledge transfer is imperative. Respondents from Kazakhstan and Azerbaijan emphasized the need for structured monitoring through follow-up reporting, phased evaluations, and feedback mechanisms. A Georgian informant highlighted the relevance of models like Kirkpatrick's for assessing outcomes across multiple levels. Meanwhile, Kyrgyzstan's representative underscored the importance of using formal monitoring alongside motivational approaches, both material and non-material, to sustain peer engagement. Participants consistently emphasized that tailored, well-integrated evaluation is essential for turning learning into lasting institutional change.

Based on the findings, the following recommendations are proposed to institutionalize P2P learning as a key mechanism for lifelong learning:

- *Integrating P2P Learning into Capacity-Building Frameworks:* Recognizing P2P learning as an effective approach of human capital and public sector development, embedding it into training programs and institutional learning systems. Defining clear strategies to foster large-scale lifelong learning and governance transformation.
- *Designing Purpose-Driven, Long-Term Peer Learning Formats:* Prioritizing interactive tools such as hackathons, field visits, and working groups, embedded in long-term initiatives that allow for iterative knowledge adaptation, feedback, and mutual accountability.

- *Embedding Decision-Making Authority in Peer Exchanges*: Ensuring that participants have real decision-making power or strong influence within their institutions to facilitate real-world application and institutional uptake of shared knowledge.
- *Fostering Cross-Border and Inter-Sectoral Exchange*: Platforms like ACSH should continue expanding alliances among professionals from different countries and sectors to enhance knowledge exchange.
- *Establishing Monitoring and Evaluation Systems*: Introducing structured monitoring tools such as consent-based action plans, follow-up surveys, and peer feedback loops to track knowledge application and behavioral change at individual and institutional levels.
- *Ensuring Consistent Institutional and Financial Commitment*: Promote dedicated institutional and financial support for P2P learning to move beyond ad-hoc exchanges. Continuous learning and sustained support are essential for successful public sector transformation through long-term strategies, ensuring deeper engagement and greater impact over time.

CONCLUSION

In a time of rapid digital change and complex global challenges, Peer-to-Peer learning offers a flexible, human-centered approach that complements traditional capacity-building and supports governance transformation. Grounded in trust, reciprocity, and real-world application, it fosters continuous learning, cross-border collaboration, and practical innovations, especially relevant for civil servants navigating evolving policy landscapes.

The insights gathered from CIS civil servants confirm that P2P learning enhances policy dialogue, nurtures a culture of experimentation, and enables the co-creation of solutions that are relevant and adaptable to local contexts. It bridges silos across sectors and borders, reinforcing regional cooperation and shared reform agendas.

To realize its full potential, P2P learning should be acknowledged as a valuable supplement to existing lifelong learning, governance, and professional development systems. This requires purposeful design, sustained planning, empowered participation, and strong institutional and political support.

As governments strive to build more agile, inclusive, and future-oriented environments, investing in peer learning networks is both a timely and effective step toward strengthening institutional resilience and advancing multinational cooperation.

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