Developing technological hubs: digital communities as catalysts for multigrade classroom advantages

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ABSTRACT: This study explores the role of digital communities in transforming the challenges of multigrade classrooms into opportunities for creating technological hubs in small rural schools, thereby nurturing pools of talent for technology and engineering education. Through the establishment of a digital community on the Discord platform, comprising 25 teachers from small rural schools, we examined the community's effectiveness as a platform for professional and technological skill development.

The findings illustrate that the Discord-based community not only initiated detailed conversations on effective multigrade classroom strategies but also encouraged the sharing of technology-focused educational practices. The community facilitated peer-to-peer learning, reduced feelings of professional isolation by creating connections across distant locations, and fostered an environment conducive to the development of technological hubs in rural areas. The digital infrastructure of Discord provided the necessary flexibility and accessibility for educators, crucial for those in remote areas with limited access to professional and technological development resources. A notable aspect of the community was the constructive feedback on various teaching practices, allowing educators to avoid pitfalls and instead, integrate technology into their teaching more effectively.

The results suggest that digital communities can significantly contribute to the professional and technological advancement of rural educators, providing a collaborative space for exchanging ideas, offering mutual support, and addressing the unique challenges of their teaching contexts. Our study highlights the potential of platforms like Discord to not only support professional development but also to spearhead the emergence of rural schools as breeding grounds for technological expertise. The research provides initial evidence of the effectiveness and benefits of such digital communities, with their ongoing activity and ability to attract new members post-research indicating their lasting value.

Keywords: technological hubs, digital communities, multigrade classrooms, peer-to-peer learning, professional isolation, talent pools, technological skill development, educational technology integration.

INTRODUCTION

The transformative nature of education elevates an individual's holistic well-being, encompassing physical, mental, and socio-economic dimensions. By offering avenues for personal and professional evolution, education paves the way for a promising future. This perspective is deeply ingrained in the Kazakhstani education system, which mandates free and compulsory education for all children. This commitment has led to the creation of comprehensive primary schools accessible to all, even if it necessitates the formation of multigrade classrooms in remote regions. Recognizing the augmented responsibilities of educators managing these multigrade classes, the government extends a special hardship allowance [1]. This allowance signifies the augmented efforts inherent in multigrade teaching.

Multigrade teaching is an instructional setup where a single educator manages the curriculum delivery for two or more grades in a unified classroom environment. Such arrangements often emerge from constraints like limited teacher availability in small schools or varying enrollments in larger urban or semi-urban institutions [2]. The multifaceted nature of multigrade teaching is accentuated by the diverse age groups, academic levels, curricular demands, and individual student requirements present within a single classroom. Many educators highlight the relentless pressure of time management as a significant concern [3]. Across continents – from Africa and America to Europe and Australia – multigrade teachers face a gamut of issues: logistical challenges like transportation, economic hardships, the illiteracy of parents, intensified demands on teacher time and effort, linguistic barriers, and specific pedagogical intricacies [4]. Factors that impede optimal learning outcomes include parents' lack of engagement in their child's education, inadequate

governmental financial support, limited resources, the presence of underqualified teachers, and the pronounced strain borne by multigrade educators [5].

In Kazakhstan, teachers, especially in secluded rural areas, face several impediments, including insufficient training, lack of resources, and limited support. The isolated locales of many of these schools further intensify these challenges. Remarkably, despite these hurdles, multigrade educators often exhibit a commendable dedication to their students. It is not uncommon for them to allocate portions of their own earnings to procure essential educational resources [6]. However, a significant shortcoming lies in the pre-service training for upcoming educators: it scarcely touches upon strategies tailored for multigrade classrooms, leaving many unprepared for such unique teaching environments [7]. It's imperative to note that proficiency in single-grade teaching doesn't necessarily translate to competence in a multigrade setting. Thus, a teacher's ability to convey lessons effectively becomes pivotal for ensuring student achievement.

Context Diversity in Multigrade Classrooms

In educational parlance, diversity often refers to the variety of student backgrounds in a classroom and the range of their educational needs. A broader interpretation extends to the differing learning opportunities accorded to students. Much like the distinctiveness of single-grade classes, multigrade settings also display pronounced variability. In our research, we interpret diversity as a recognition of each student's unique attributes. We argue that all classrooms, particularly multigrade ones, house students with diverse proficiency levels, learning styles, preferences, and needs.

Such diversity in multigrade classrooms is multifaceted. Students may differ in age, academic prowess, cognitive abilities, interests, foundational knowledge, socio-economic backgrounds, and even attendance patterns, among other aspects [8]. Occasionally, geographical locales contribute to this diversity. Teachers wade through this eclectic mix of learner attributes across various contexts – be it in large or small groups, single-grade or multigrade setups, urban or rural settings, and across socio-economic gradients. This diversity, in terms of student attributes, is likely a common thread in the experiences of many educators during their careers [9]. Given this, educators require an arsenal of pedagogical strategies, sensitively tailored to students' learning modalities, preferences, and their cognitive and socio-emotional developmental stages.

Digital Communities for Small Rural Schools' Teachers

Research indicates that the establishment of Professional Learning Communities (PLCs) can substantially enhance teacher quality, self-efficacy, collective efficacy, and dedication to students, thereby significantly influencing student outcomes [10]. Louis et al. [11] describe PLCs as embodying shared values, emphasizing student learning, fostering collaboration, promoting open teaching practices, and facilitating reflective dialogue. These elements collectively bolster both professional development and school transformation.

Though a precise definition of PLC remains elusive, a consensus among educational researchers and administrators suggests it pertains to a collective of teachers who engage in collaborative and critical scrutiny of their teaching methodologies. This aims to foster innovation and knowledge dissemination in a continuous, reflective, inclusive, and growth-centric environment [12].

Rural educational institutions, however, often encounter distinct challenges in cultivating such communities. Their generally compact size and geographic isolation can deprive teachers of a varied educator network for collaboration and discourse. Consequently, they might miss out on resources and professional development opportunities available to their urban peers. This is where the potential of digital communities comes to the fore. Via platforms like Discord, rural educators can integrate into expansive networks, exchanging ideas, pooling resources, and collaborating on challenges. These virtual platforms enable the creation of digital PLCs, offering many traditional PLC benefits, unhindered by geographical constraints.

Moreover, these digital hubs can be instrumental for educators in small rural schools grappling with the nuances of multigrade classrooms and tiered instruction. Such platforms become repositories for effective strategies, problem-solving sessions, and mutual support, bridging the isolation often felt in remote settings and connecting them to a wider educational ecosystem. By nurturing vibrant digital communities, the advantages of PLCs can be extended to even the most remote educators. Overcoming geographic and infrastructural challenges, these platforms can embolden teachers to adeptly adopt and execute pioneering teaching methodologies.

This research endeavors to explore the potential contributions of digital communities in assisting multigrade educators. The distinctive environment of multigrade teaching frequently presents challenges in identifying and implementing appropriate teaching strategies. The combined physical and social isolation, a consequence of the geographical seclusion of rural regions, can intensify these challenges. Digital communities, exemplified by platforms like Discord, aspire to offer an avenue for multigrade educators to exchange insights and expertise.

However, in spite of the global acknowledgment of the significance of multigrade teaching, empirical studies focusing on this pedagogical approach remain limited.

Therefore, the objective of this study is to:

• Examine the influence of digital communities, facilitated by online platforms such as Discord, in bolstering support and circulating best practices among multigrade educators.

The imperative for such context-driven research becomes conspicuous against the backdrop of the escalating prominence of multigrade teaching and the noticeable deficit of empirical studies on the subject.

METHODS

This study adopts a digital community case-study design to delve into the deployment of teaching methodologies within multigrade classrooms. We chose the case-study approach for its capacity to offer a nuanced and profound investigation into the specific phenomenon under study. Data was amassed using a multi-pronged approach, encompassing semi-structured interviews, observations, and scrutiny of inter-educator conversations. Central to our study was the use of the Discord platform, a digital tool that, though originally favored by the gaming community, has gained substantial traction in academic spheres. Its amalgamation of text, voice, and video capabilities made it an apt choice, bridging geographical divides and fostering dynamic and adaptable channels of communication between educators.

Discord also emerged as pivotal in the realm of document analysis. The platform facilitated the sharing, reviewing, and collective critiquing of lesson plans, enabling synchronous discussions. Furthermore, its structure granted us a unique observational vantage point, permitting a close study of the spontaneous discourse and collaborative undertakings within the educator community. Incorporating Discord into our research paradigm underscores the potential of digital platforms in underpinning in-depth educational inquiries, especially pertinent to remote or sparsely populated settings. It reaffirms the prospect that digital communities hold in heralding groundbreaking shifts in both educational research and pedagogical practices.

Participants

As part of our comprehensive project, we surveyed over 200 teachers from small rural schools in Kazakhstan. Employing the purposive criterion sampling technique, 25 teachers, all of whom were engaged in multigrade classroom instruction, were chosen for a deeper dive into this study. The objective of this specific selection was to extract nuanced insights into their lived experiences of teaching in multigrade environments and discern how digital communities might support their endeavors.

The chosen educators presented a broad continuum of teaching tenures, with experience spanning from 3 to 17 years. This breadth ensured a rich tapestry of perspectives and insights. Notably, at the juncture of our research (April-July 2023), each participant was engaged in roughly 20 teaching sessions weekly. Such consistency in their professional obligations ensured that comparisons of their experiences were grounded in a level playing field.

Data Collection and Analysis

Our research methodology hinged on a three-pronged approach for data collection: semi-structured interviews, observations of the digital community on the Discord platform, and an analysis of the chat dialogues therein. The interview guide, employed for online interactions, steered each interview—lasting an average of 45 minutes and meticulously recorded for subsequent transcription. The interviews contained four pivotal open-ended inquiries, concentrating on participants' initiation into multigrade teaching, the distinct challenges they grapple with, the repercussions of geographical and social isolation, and the transformative influence of digital communities on their teaching craft.

Supplementing these interviews, the research team observed educators' dynamics within Discord, offering a firsthand perspective of their collective pedagogical experiences. Field notes meticulously chronicled the gamut of their instructional strategies—both triumphant and challenging. During these observation sessions, we remained non-intrusive, ensuring the organic flow of community discussions.

The subsequent stage entailed a rigorous analysis. All data sets—interview recordings, observational notes, and chat dialogues—were meticulously organized for detailed scrutiny. Thematic analysis was employed to discern recurrent patterns, which were then harmonized with our research objectives for coherence. This methodical approach extended to an examination of the diverse instructional strategies and resources that teachers shared on Discord. To bolster the study's credibility, member-checking, involving an expert review of our identified themes and codes, was integrated to ascertain inter-rater reliability. This approach fortified the study's reliability and validity.

Lastly, grounding our methodology in ethical considerations, we secured approvals from the concerned institutions and obtained informed consents from participants, upholding the sanctity of individual autonomy and confidentiality.

RESULTS AND DISCUSSIONS

This research elucidates the nuanced pedagogical approaches adopted by multigrade educators, several of which have been accentuated and enhanced through participation in the digital community. The discerned strategies have been categorized into six predominant themes, which are delineated below:

1. *Classroom Management*. Classroom management stands as an imperative facet in constructing an efficacious learning milieu. A salient theme that consistently surfaced during the participant interactions was the paramount importance of classroom management. As delineated by the participants, the linchpin to effective multigrade teaching hinges on adept classroom environment management.

The digital community was pivotal in fortifying educators' classroom management competencies. This virtual space granted educators the opportunity to disseminate and reciprocate experiences, methodologies, and hurdles specific to multigrade classroom orchestration. Deliberations encompassed tangible solutions to recurrent issues, narratives of successful implementations, and mutual guidance. This symbiotic exchange fostered a culture of relentless refinement, substantially bolstering educators' prowess in classroom management. The digital forum, in essence, morphed into a nexus of collegial support, equipping educators to glean insights from peer experiences and thereby instantiate efficacious classroom strategies.

From Interview #12: "Honestly, I felt like I needed some help to up my teaching game. Every tip I found seemed to need a twist to fit my class because no two classes are the same, right? Then I joined this chat, and it was like hitting the jackpot. I got tips that actually worked for me, and I could share stuff that worked in the past too".

2. *Collaborative Learning*. In the interviews, teachers frequently cited the implementation of collaborative learning, specifically highlighting the technique of 'peer tutoring'. This approach entails grouping students based on their respective proficiencies. Essentially, more advanced learners assist their peers who may require further guidance. This not only engenders a cooperative learning environment but also facilitates mutual educational enrichment. By crafting activities tailored to specific learning benchmarks, teachers are able to infuse a richer variety of instructional tactics.

The digital community emerged as a pivotal asset in bolstering the teachers' application of collaborative learning methodologies. The platform served as a conduit for educators to exchange insights, overcome obstacles, and propagate effective techniques related to peer tutoring and other synergistic learning methods. Discussions on the digital platform encompassed topics such as optimal grouping strategies, crafting group-centric tasks, and addressing potential complexities inherent to collaborative endeavors. Such collective discourse, brimming with shared wisdom and experiential anecdotes, allowed teachers to fine-tune their collaborative methodologies. Consequently, they were better equipped to address the diverse needs of students within their multigrade classrooms. The digital community's role in this dynamic reaffirms its value as an indispensable tool for progressive pedagogical refinement.

3. *Differentiated Instruction.* The data indicated that differentiated instruction was a predominant strategy among many teachers within multigrade settings. A segment of these educators opted for an autonomous learning approach for higher-performing students. This strategy promotes self-reliance by offering initial guidance and entrusting students with the subsequent learning process, fostering self-directed learning capabilities. The digital community emerged as a linchpin in the proliferation and enhancement of these differentiated instructional techniques. This platform provided educators with guidance on strategizing and executing differentiated instruction effectively. It elucidated core competencies and subject matter consistent across varied learning strata, while concurrently offering insights into bespoke activities tailored to specific student proficiency levels.

Educators found solace in this collaborative realm, sharing pedagogical innovations, resources, and experiences. Discussions revolved around customizing tasks for divergent abilities and disseminating effective educational materials. Moreover, the platform served as a forum for addressing the intricate challenges accompanying differentiated instruction, such as managing the augmented academic workload, navigating tight schedules, and ensuring balanced attention distribution among a diverse student cohort.

Interview #4*:* "I've got this mixed class with 7th and 8th graders, and a few 6th graders who are just smashing it. I was scratching my head, thinking how to keep them all engaged without losing time or straying from the curriculum. After a few days of chatting in the community, I stumbled upon a solution that never even crossed my mind before!"

4. *Connecting Teaching to Real-life Situations*. A prominent strategy embraced by multigrade teachers is the tethering of instructional content to real-world scenarios. By embedding classroom teachings within contexts pertinent to students' daily lives, educators can illuminate the practical significance of academic pursuits. Numerous educators spotlighted their use of explicit teaching to achieve this. This student-centric modality involves instructors showcasing the anticipated tasks or behaviors before allowing students to undertake them. Such demonstrations offer tangible instances of the real-world utility of certain knowledge or competencies, bolstering students' grasp of their academic relevance.

Another salient method was the amalgamation of various subjects within a singular lesson framework, commonly dubbed "integrative teaching." Such an approach nudges students to discern the intrinsic links between distinct academic spheres, mirroring the real world where diverse knowledge facets often interplay. The digital community emerged as a crucible

for refining these teaching methodologies. Here, educators collaborated, detailing their respective adventures in meshing academic discourse with everyday scenarios. They elucidated effective task demonstrations, traded integrative lesson blueprints, and even put forth and exchanged ideas about harnessing the rural environment through outdoor activities.

5. *Integrating Technology in Teaching.* Another prominent strategy discerned from the educators' feedback revolves around the amalgamation of technological tools into pedagogical practices. The incorporation of digital instruments can markedly augment the educational journey, paving the way for more streamlined, diversified, and interactive learning experiences. Furthermore, these tools can bridge communication gaps, intensifying student involvement and fortifying the bonds between educators and their charges.

The digital community was instrumental in empowering teachers to leverage this technologically-driven approach. It fashioned a nexus where educators could disseminate insights about diverse digital aids, their utility, and their efficacy within the realm of multigrade instruction. There was an enthusiastic exchange of intel on pedagogical software, digital platforms, and resourceful tools that had proven valuable in their teaching pursuits. Beyond mere resource-sharing, this virtual collective also emerged as a beacon for peer-driven tutorials and support. From step-by-step guides to nuanced techniques, educators delved into the intricacies of seamlessly weaving these digital innovations into their curricular tapestry. Queries were posed, advice was solicited, and the communal exchange of expertise significantly bolstered the tech-centric transformation of multigrade teaching.

Interview #21: "Before this project, I wasn't really tech-savvy. I'd tried a few digital tools for teaching, but it never quite clicked for me. So, when I first heard about this research, I was hesitant. However, looking back, I'm so glad I jumped on board. In just three months, I've explored more tools and websites than I have in the past several years. Now, I'm on Discord daily, not just for chats but also for tech advice and updates".

6. *Flexibility of the Teacher.* Given the inherently unpredictable dynamics of multigrade classrooms, marked by a spectrum of learner profiles and diverse needs, educators are necessitated to exhibit adaptability and versatility. This mandates the deployment of a repertoire of pedagogical strategies tailored to address the myriad needs while adeptly navigating any emergent challenges. Consequently, this entails a judicious exercise in lesson planning and the development of instructional materials. In practice, this translates to the formulation of resources like teacher-guided activity sheets, group-centric learning modules, and individualized practice worksheets, all of which are modifiable to align with varying learning proficiencies.

In sustaining teachers' endeavors towards this adaptability, the digital community emerged as an invaluable asset. This platform facilitated a collaborative space for educators to disseminate and assimilate advice, as well as resources germane to multigrade contexts. Such resources encompassed malleable lesson frameworks, activity modules, and a myriad of materials conceived by educators well-versed in the nuances of multigrade instruction. The act of mutual knowledge exchange empowered educators to hone a more fluid and reflexive pedagogical stance. Notably, the digital community also evolved as a bastion of support, empowering educators to solicit guidance during adversities, thereby engendering a culture of resilience and sustained adaptability.

Interview #9: "You wouldn't believe how much time we saved with the help of our Discord group. We swapped forms, plans, even tests. One time, a colleague was heading out on a trip and didn't have time to grade test papers. He scanned them, and with the group's help, we had them all checked in about 20 minutes. Just a couple of weeks ago, I was running late for an exam, so I pinged one of the guys for help. I sent him my lesson plans, projected our Discord call on the classroom whiteboard, and took off. Came back 40 minutes later to wrap things up. It's been a lifesaver!".

CONCLUSIONS

In analyzing the strategies deployed within multigrade teaching, the profound influence of digital communities in providing teacher support became evident. The study revealed that such online platforms empower teachers to exchange experiences and wisdom, culminating in a communal augmentation of methodologies. This synergetic interaction not only enriches the community's collective knowledge but also refines pedagogical approaches. The digital community has emerged as an indispensable tool for educators navigating the intricacies of multigrade environments. Beyond merely facilitating dialogue, it aids educators in surmounting multifaceted challenges and refining their teaching methodologies.

Although the outcomes were predominantly positive, the research process did encounter challenges. Initially, engaging teachers in productive dialogue was challenging. To foster communication, we instituted a rule mandating participant to draft daily summaries. This practice became redundant after the first week as conversations flowed naturally. Another challenge was the formation of interest groups, which led to discussions straying from the primary research themes. Consequently, discussions on religious and political topics were prohibited, and several participants were temporarily suspended due to conflicts and inappropriate language use. To maintain the integrity and focus of the platform, three teachers were designated as group administrators, overseeing discussions during times when researchers were unavailable.

The sustained interest and growth of the digital community serve as an affirmation of its success. Post-research, only six of the original 25 participants exited the server, while the community expanded to 53 members within a month of the study's conclusion. Although the initial plan was to archive the community in anticipation of the subsequent research phase, its evident significance to many participants persuaded us to keep it active. There is a compelling case for more in-depth investigations in this domain, accentuating the enduring relevance of digital communities within the educational landscape.

Interview #2 expressed it the best: "Thanks for letting me be a part of this study. To be honest, I wasn't super hopeful at the start. I've done loads of surveys and interviews in the past, and they didn't really lead to much change. Plus, I thought this would just eat up more of my time. Okay, I wasn't wrong about the time thing, especially since I ended up being a server admin. But, I was definitely wrong thinking this would be just another fruitless venture. A few months back, I was thinking about packing it up and heading to Almaty, feeling a bit stagnant here. I love the village, my students, and the whole vibe here. But sometimes, it felt like I was just tilting at windmills, you know? But after this experience, I've found my crew - people who get it. Suddenly, I don't feel so isolated anymore".

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BIOGRAPHIES

Bakytgul Abykanova, PhD, Candidate of Pedagogical Sciences, Associate Professor at the Kh. Dosmukhamedov Atyrau University, Department of Physics and Technical Disciplines. With over 20 years of experience in the field of education, the author has published more than 150 scientific works and holds 21 patents. In 2015, she was honored with the national title of "Best University Teacher".
Dr. Abykanova's career is marked by her unwavering commitment to qualification development. She has been at the forefront of curriculum design that marries theoretical knowledge with practical skills, ensuring that students are not only well-versed in their subjects but are also prepared to apply their knowledge in real-world scenarios.
Transforming challenges into opportunities is a hallmark of Dr. Abykanova's approach to education. In the face of geographical and infrastructural limitations, she has been instrumental in establishing technological hubs in small rural schools. These hubs serve as beacons of knowledge, bridging the urban-rural divide and providing students in remote areas with unprecedented access to modern educational resources and connectivity.

Samal Nugumanova, the principal of School №58 in Astana, is a visionary advocate for the integration of digital tools in school education. Recognized for her proactive approach, she works tirelessly with teachers from rural and smaller schools across the region and throughout the nation, aiming to uplift educational standards and promote digital literacy. Nugumaeva's leadership extends beyond administrative duties as she provides a dynamic platform for professional development, fostering an environment where educators can collaborate, innovate, and enhance their digital teaching competencies to better serve the evolving needs of their students. Her commitment to educational excellence and digital innovation marks her as a pivotal figure in the modernization of school education in Kazakhstan.
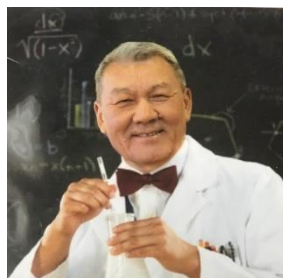
Gabit Kussainov, PhD, holds a prominent position as the acting head of the Department of Educational Programs at the Center for Pedagogical Skills of the Autonomous Educational Organization "Nazarbayev Intellectual Schools". His career encompasses various strategic and leadership roles. Dr. Kussainov's experience extends to the Ministry of Education and Science of the Republic of Kazakhstan, where he led as the Deputy Head for the Governance of State Standards and the Provision of Education.

His role in developing the State General Education Standards and postgraduate education reform, as well as the Concept of Education Development in the Republic of Kazakhstan until 2015, highlights his pivotal role in shaping the educational policy that guides the competitiveness and development of youth and educational leaders in Kazakhstan.

His commitment to educational excellence is also evidenced by his receipt of the honorary badge "Үздік ұстаз" in 2011 and multiple commendation certificates from the Ministry of Education and Science, reinforcing his standing as a transformative force in Kazakhstani education policy and administration.

Zhadyra Salykbayeva, MSc, since September 2015, she has been a senior lecturer in the Department of Physics and Technical Disciplines at Kh. Dosmukhamedov Atyrau University. She has supervised several successful thesis projects, and her students have been awarded in national and international olympiads and scientific competitions.

Notably, in 2019, her students secured the third team place in the VII Republican Subject Olympiad for "Physics" for students of higher education institutions of the Republic of Kazakhstan. In 2020, a fourth-year student under her mentorship achieved third place in the "5B073200 - Standardization and Certification" specialty at the XII Republican Subject Olympiad.

In 2021, her students obtained third place at an International Scientific Olympiad and a student won first place in the "Best Scientific Work-2020" category in the "6B07501-Standardization and Certification" specialty. Her contributions have been recognized with letters of appreciation from various institutions and she has been actively involved in projects aimed at revamping professional education systems and refreshing polytechnic education in the context of modern industry requirements.

Gulash Kochshanova, PhD, is a distinguished professor at the Department of Fundamental Sciences at Caspian University of Technology and Engineering named after Sh.Yessenov. She has been instrumental in bridging the educational journey from school to university for students aspiring to enter technical studies.

Dr. Kochshanova has spearheaded initiatives that strengthen the pipeline for young students, starting from their school years, to develop a robust foundation in the sciences. She has been pivotal in creating programs that make the transition to university-level engineering and technical courses smoother, ensuring that the curriculum is both challenging and accessible. Beyond her work with students, she has been deeply involved in the professional development of teachers. Dr. Kochshanova's vision includes not only equipping educators with the latest advancements in technical knowledge but also fostering innovative teaching methodologies that can engage and inspire the next generation of engineers and technologists.

Adlet Kariyev, PhD, since September 2021, he has been the program leader at the Department of Preschool and Primary Education at the Institute of Pedagogy and Psychology of Kazakh National Women's Teacher Training University.

Adlet Kariyev is actively engaged in research activities in the field of education. He is a two-time recipient of the State Scientific Scholarship for young scientists in pedagogical sciences for the years 2013-2014 and 2019-2020.