A TECHNOLOGY FOR ORGANIZING TEACHERS' CONTINUOUS PROFESSIONAL DEVELOPMENT THROUGH THE USTOZQANOT PLATFORM

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DOI: 10.67620/sai.59b0014

ABSTRACT
This study examines the pedagogical potential, methodological structure, and implementation of the UstozQanot digital platform for supporting teachers' continuous professional development through professional learning networks. The platform was designed to connect teachers' identified professional needs with collaborative learning, resource development, classroom application, reflection, and outcome monitoring. Its content structure was informed by a needs survey of 370 teachers, which identified demand for lesson plans and teaching resources, visual materials, tests, interactive tasks, and platform features such as gamification, test creation, and methodological support. Based on these findings, the authors propose a six-stage professional development cycle: identifying professional needs, selecting needs-based methodological materials, engaging in network collaboration, conducting practical testing, reflecting on professional practice, and monitoring outcomes. Within this cycle, teachers collaboratively develop and peer-review instructional resources, test them in authentic classroom settings, collect evidence of their effectiveness, and refine them in response to results and collegial feedback. Outcome monitoring then informs a new needs assessment, allowing professional learning to continue as a recurring process. The proposed technology positions the platform as an integrated environment for collaborative, practice-oriented, evidence-based professional growth across schools and subject areas. This cyclical design is intended to sustain professional learning while keeping development closely connected to teachers' classroom needs.

ACCEPTED

07.10.26

Keywords: *continuous professional development, professional learning networks, UstozQanot, digital platform, network collaboration, instructional resources.*

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Introduction

Frequent updates to educational content, the introduction of innovations in education—including digital and artificial intelligence tools—the increasingly individualized needs of learners, and requirements related to performance in international assessment programs necessitate moving teachers' continuous professional development beyond periodic training courses and organizing everyday professional practice

as an ongoing process of professional growth. Across the global educational landscape, particular emphasis is placed on integrating various forms of learning, developing professional learning communities and professional learning networks, using open educational resources, exchanging experiences, and supporting reflective practice to ensure teachers' continuous professional development. Research on teacher professional development indicates that, alongside the effective use of digital educational tools, developing technologies that enable teachers to become active participants who collaboratively create, test, evaluate, and disseminate professional knowledge is a pressing international research priority in education.

International experience, particularly in the education systems of developed countries, demonstrates that models such as professional learning communities (PLCs) and professional learning networks (PLNs) provide an effective environment for teachers to collaborate beyond institutional and geographical boundaries, jointly address methodological challenges, adapt best practices to local contexts, and reflectively evaluate their professional practice.

Method

In recent years, researchers and practitioners have increasingly focused on interschool professional learning networks and communities (PLNs and PLCs). These networks support teachers' professional development and contribute to the improvement of schools and education systems (Poortman & Brown, 2018). Ensuring teachers' continuous professional development requires models that incorporate modern, flexible, and innovative approaches. Professional development organized through professional learning networks is proposed as one such model. To establish a scientific foundation for the concept of a professional learning network in our research, we first clarify the meanings of "association" and "network." The Explanatory Dictionary of the Uzbek Language (2020) defines an association as a group of people or organizations united to act together toward a common goal, a union, or an organization. This definition suggests that shared goals, cooperation, alignment of interests, and collective action underpin the concept of an association. From a pedagogical perspective, an association is both an organizational entity and a social environment in which learning, communication, the exchange of experience, and professional change take place. An association is a group of people who actively communicate with one another. Dewey (1916) similarly described a community as a group of people who communicate with one another. According to Dewey, people live in a community because they share something in common, and communication is the means through which that commonality is established. Interconnections among community members constitute an essential condition for its existence (Patarakin, 2006a). The educational community model represents a way of organizing the exchange of experience among teachers who use shared educational resources to implement various projects. This approach makes it possible to understand professional communities as spaces for collaborative learning and professional development.

The concept of a network refers to a system of interconnected participants, resources, activities, and communication links. In pedagogical practice, the network approach was initially interpreted as a means of planning, cooperation, and resource coordination. In a digital society, however, it has emerged as a complex social and pedagogical system that enables teachers to connect within an open information environment, exchange experiences, create teaching resources, and pursue professional growth.

Etienne Wenger's concept of communities of practice provides an essential methodological foundation for explaining professional learning networks. This concept established that learning and practice become more effective through shared experience. Learning involves more than individual knowledge acquisition; it is also a process of participating in practice, collaborating with others, and developing a professional identity (Wenger, 1998). Wenger's approach helps clarify the nature of professional learning networks. Within such a network, a teacher becomes an active participant who shares personal experience, analyzes and discusses the experiences of others, and adapts them to their own professional practice. In this process, professional development occurs through collaborative activity,

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reflection, and the reconstruction of experience, as well as through knowledge acquired from external sources.

The exchange of experience and learning from that experience are of methodological and practical significance to the functioning of any professional learning network. The development of these networks supports teachers' professional activity between formal professional development courses. Gololobova (2010) specifically highlights the potential of teachers' network communities to enhance participants' professional competence during these intervals. This perspective substantiates the role of professional learning networks as a mechanism for ensuring continuity in professional development. In the scholarly literature, the concept of network collaboration has developed in response to teachers' needs within the professional development system. Bugrova (2009) analyzes network collaboration as a means of using resources, expanding professional connections, and disseminating innovative practices within the system of teacher professional development. From this perspective, a professional learning network organizes teachers' interactions as purposeful, regular, and productive professional collaboration.

The idea of innovative centers proposed by Adamsky (2003) also substantiates the need to support teachers' professional development through open networks, sites for experimentation, and creative groups. This perspective calls for teachers to be regarded as equal partners and agents of professional initiative, moving beyond the traditional professional development model based on hierarchical management. According to Patarakin (2006b), a network community is a group of people who communicate and engage in joint activities through computer networks. This definition indicates that professional learning networks serve as both a means of communication and a new form of collaborative learning and professional activity.

Results

The foundational approach underlying UstozQanot is to connect teachers' professional learning with their practical tasks. A digital resource provides information; a methodological task encourages teachers to adapt that information to their own lessons; and feedback from colleagues provides a basis for reconsidering the chosen solution. Accordingly, each learning unit on the platform should be designed to integrate content, activities, and an assessable product. Research on effective professional development identifies active learning, collaboration, expert support, feedback, and reflection as key factors. Applying these factors to the use of materials on the UstozQanot platform requires each topic to begin with a specific professional problem, engage teachers in developing a tangible product, and provide opportunities to discuss it. This application is proposed in the article as the authors' methodological solution. Viewing a school as a learning organization places particular emphasis on collaborative learning, knowledge sharing, and cooperation with the external environment (Kools & Stoll, 2016). A professional learning network enables these connections to be organized across schools. The transfer of experience gained through the platform back to the school community should also be planned: teachers explain the teaching resources they have refined to their colleagues and prepare recommendations for their use in other classroom contexts. The Technological Pedagogical Content Knowledge (TPACK) framework explains how digital tools can be selected in alignment with subject content and teaching methods. For UstozQanot, this approach means that the learning objective a resource serves is more important than the digital service used to create it. When selecting a teaching resource, teachers justify the alignment among the learner's task, the expected outcome, and the evidence used for assessment.

The content of the technology developed in our research was informed by teachers' professional needs. In a survey involving 370 teachers, 30% of respondents expressed a need for lesson plans and teaching resources, 20% for visual materials, 18% for tests, 17% for interactive tasks, and 15% for other types of resources. The priority features of the platform and network environment were identified as gamification (24%), test creation (21%), methodological support (20%), courses and training (15%), support with pedagogical technologies (12%), and other features (8%). These findings indicate that providing teachers with a database of subject-related information alone is insufficient. Teachers also need

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plans, visual materials, and interactive tasks to support their continuous professional development. Therefore, the core content of the technology was organized around three activities:

- • Identifying professional needs.
- • Developing teaching resources through network collaboration.
- • Testing and refining these resources in practice.

The survey findings also informed the content structure of the UstozQanot platform. Its sections support a range of professional tasks. Their shared developmental purpose is to enable teachers to assess their knowledge, design lessons, and present their experience in scholarly and methodological forms. Figure 1 presents a schematic overview of the UstozQanot platform.

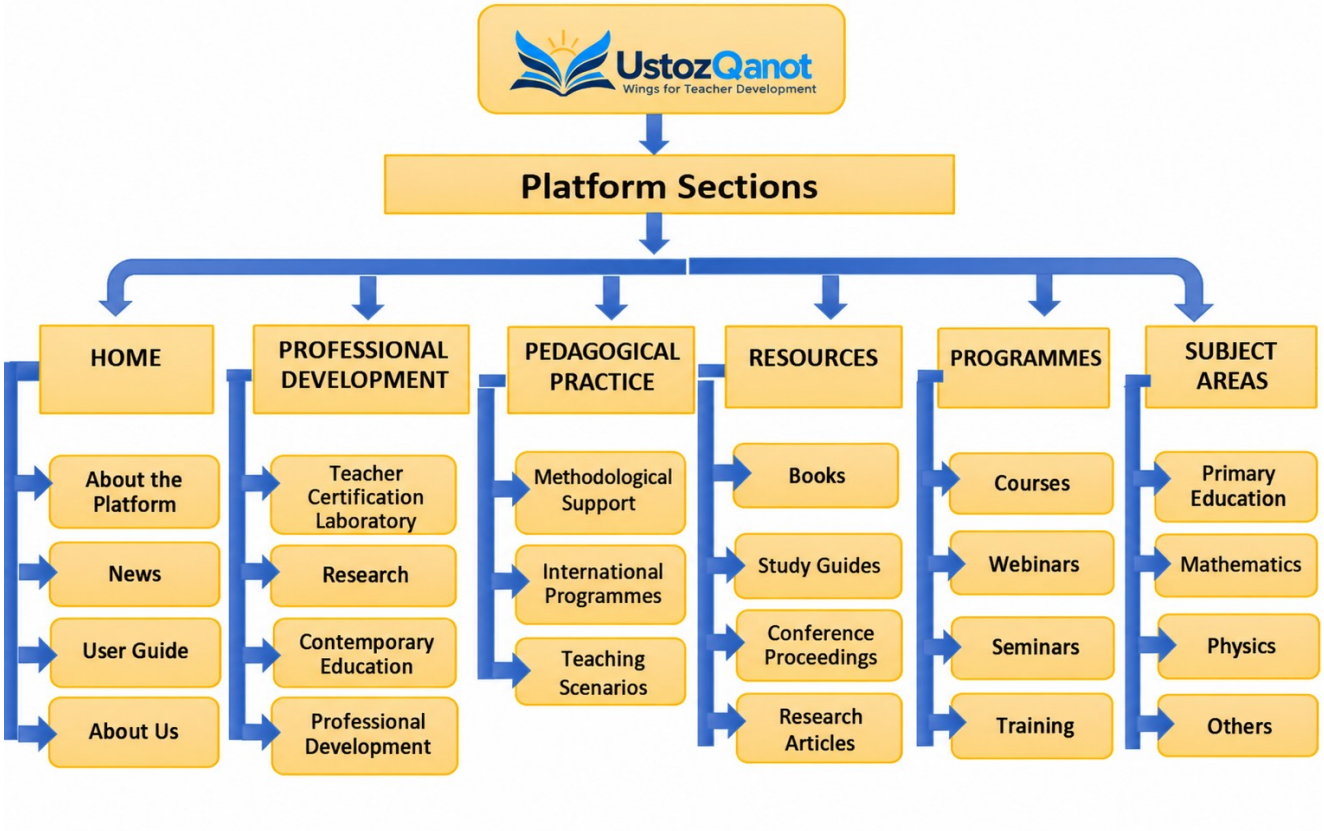


Figure 1

Schematic Overview of the UstozQanot Platform

The Six-Stage Cycle for Using the UstozQanot Platform

The use of the UstozQanot platform is organized around a six-stage cycle comprising the identification of professional needs, the selection of methodological materials tailored to those needs, network collaboration, practical testing, reflection on one's own practice, and outcome monitoring. These stages support the exploration of professional needs, the development of teaching resources, their testing in practice, and the identification of new professional development goals based on the results.

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Stage	Teacher Activity	Practical Outcome
Identification of Professional Needs	Identifying professional needs	Problem and goal
Needs-Based Methodological Materials	Selecting content aligned with professional needs	Learning plan and individual project
Network Collaboration	Developing teaching resources and conducting peer review	Teaching resource ready for testing
Practical Testing	Testing the teaching resource in one's own professional practice	Records of practical testing
Reflection on One's Own Practice	Analysing outcomes and making improvements	Refined teaching resource
Outcome Monitoring	Comparing initial and final outcomes	Conclusion and a newly identified need

Identification of Professional Needs. Teachers' professional needs are identified through questionnaires, tests, self-assessment, and analysis of existing teaching resources. Teachers' views on their professional needs and the challenges they face are collected to select a priority topic or methodological problem to be addressed through the development of a teaching resource.

Needs-Based Methodological Materials. Based on the identified professional needs, instructional materials and practical tasks are developed in accordance with teachers' levels of preparation and areas of professional activity. The content is uploaded to the platform to enable teachers to study independently, adapt it to their own practice, discuss it with colleagues, and refine it based on the suggestions received.

Network Collaboration. Teachers collaboratively discuss the initial draft, add missing elements, refine its content, and conduct peer review. The review considers alignment with the intended objectives, methodological accuracy, responsiveness to learners' needs, and feasibility of implementation. The author revises and refines the resource based on the accepted suggestions. This process produces a teaching resource ready for practical testing.

Practical Testing. The teaching resource that has undergone peer review is implemented in an actual classroom to examine its alignment with the specified learning objectives and its practical applicability. During testing, learners' task completion, the outcomes achieved, and the difficulties encountered are recorded. The primary purpose of this stage is to assess the resource's practical effectiveness and collect evidence for its refinement in the subsequent stage.

Reflection on One's Own Practice. Teachers examine the evidence collected during implementation in relation to the outcomes, explaining which components worked, which failed to produce the intended results, and why revisions are necessary. Feedback from colleagues helps clarify this analysis. Reflection leads to the revision of the resource and documentation of the reasons for the changes. At this stage, personal impressions are translated into evidence-based professional decisions.

Outcome Monitoring. Initial and final outcomes are compared using the same criteria. The criterion of acquiring professional knowledge and applying it in methodological practice assesses the justification of professional decisions. The criterion of collaborative work and teaching resource development assesses contributions to collaboration and peer review. The criterion of analyzing and improving one's own professional practice assesses evidence-based revisions. At the end of monitoring, the outcomes achieved and any unmet needs are identified. These findings inform the next diagnostic stage, initiating a new cycle.

The pedagogical potential of the UstozQanot platform lies in connecting several areas of professional activity within a shared environment. The Professional Development Core is the platform's

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central strategic section, designed to support teachers' continuous professional growth in a systematic and scientifically grounded manner. This section integrates the assessment of teachers' competencies, the consolidation of theoretical knowledge, and its application in professional practice.

The Pedagogical Practice section focuses on developing teachers' practical competencies and enriching their teaching practice. It enables teachers to apply theoretical knowledge, strengthen methodological skills, and implement interactive teaching methods. The Resource Bank serves as a center for theoretical knowledge and methodological resources. This section enables teachers to enrich their professional practice and quickly and efficiently locate ready-to-use teaching materials. The Programs section provides interactive and structured professional development opportunities aimed at continuously developing teachers' professional competencies. The Subject Areas section covers all subjects. Teachers registered on the platform join groups corresponding to their subject specializations, where they discuss their teaching resources with colleagues. Organizing teachers' continuous professional development through professional learning networks requires close integration among the identification of professional needs, collaborative learning, and the application of acquired knowledge in practice.

Conclusion

The UstozQanot platform described in this article is designed to connect these processes within a unified digital environment. Its pedagogical significance lies in creating opportunities for teachers to use methodological materials, develop teaching resources, discuss them with colleagues, test them in practice, and refine them. The proposed six-stage cycle establishes a sequence from professional needs to methodological solutions, from methodological solutions to practical testing, and from testing outcomes to well-founded professional decisions. Reflection and outcome monitoring support the refinement of teaching resources and the identification of unmet needs. Feeding monitoring findings into a new diagnostic stage enables the professional development process to continue.

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