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QUESTION OF THE KEY COMPETENCIES OF A FUTURE TEACHER

Abstract. The article explores the theoretical foundations of studying key teacher competencies by analyzing academic literature and regulatory documents from the Republic of Kazakhstan, as well as drawing on international experience. The study aims to compare the competency requirements for future teachers in countries with different educational governance systems: centralized (Kazakhstan, Russia, and China), decentralized (Germany), and hybrid (Sweden). Based on the analysis of ten conceptual models of teacher competencies, seven key competencies were identified: subject knowledge, pedagogical content knowledge, assessment competencies, reflection and self-improvement, technological/digital competencies, communication skills, and classroom management. In addition, the study highlights promising competencies recommended for integration into teacher preparation programs, including media literacy, research competency, project-based and cognitively activating teaching methods, and ICT competencies. The research revealed common trends and specific features in approaches to teacher competency development depending on national educational traditions and contemporary challenges of the digital era. The findings can inform the enhancement of teacher professional development programs and the revision of pedagogical curricula in higher and vocational education institutions.

Keywords: teacher, key competence, teacher competencies, key professional competencies, pedagogical education, professional competencies.

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Болашақ педагогтың негізгі құзыреттері жайында

Аңдатпа. Мақалада мұғалімдердің кәсіби құзыреттіліктерін теориялық тұрғыда зерделеу мәселесі қарастырылады. Зерттеу барысында Қазақстан Республикасының

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нормативтік құжаттары мен ғылыми әдебиеттеріне, сондай-ақ халықаралық тәжірибеге талдау жасалды. Зерттеудің мақсаты – білім беру жүйесін басқару үлгілері әртүрлі елдерде (орталықтандырылған – Қазақстан, Ресей, Қытай; орталықсыздандырылған – Германия; аралас – Швеция) болашақ мұғалімдерге қойылатын талаптарды салыстыру. Он концептуалдық модельге жүргізілген талдау нәтижесінде жеті негізгі құзыреттілік айқындалды: пәндік білім, педагогикалық мазмұндық білім, бағалау құзыреттіліктері, рефлексия және өзін-өзі дамыту, цифрлық/технологиялық құзыреттіліктер, коммуникациялық дағдылар және сыныпты басқару. Сонымен қатар болашақ мұғалімдерді даярлау құрылымына енгізу орынды болып саналатын перспективалы құзыреттіліктер анықталды: медиасауаттылық, зерттеу құзыреттілігі, жобалық және когнитивті белсенді оқыту тәсілдері, АКТ құзыреттіліктері. Зерттеу ұлттық білім беру дәстүрлері мен цифрлық дәуірдің қазіргі заманғы сын-қатерлеріне байланысты мұғалімдердің құзыреттіліктерін қалыптастыру тәсілдеріндегі жалпы үрдістер мен ерекше белгілерді анықтады. Сонымен қатар дамыған елдердің педагогикалық білім берудегі озық тәжірибелерінің ортақ принциптері мен отандық ерекшеліктерінің өзара ықпалы көрсетілді. Зерттеу нәтижелері мұғалімдердің кәсіби даму бағдарламаларын жетілдіруге және жоғары әрі кәсіптік білім беру ұйымдарындағы педагогикалық пәндердің мазмұнын жаңартуға пайдаланылуы мүмкін.

Кілт сөздер: мұғалім, негізгі құзыреттілік, мұғалімнің құзыреттіліктері, негізгі кәсіби құзыреттіліктер, педагогикалық білім беру, кәсіби құзыреттіліктер.

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К вопросу о ключевых компетенциях будущего педагога

Аннотация. Статья посвящена теоретическому осмыслению ключевых профессиональных компетенций педагогов на основе анализа научных публикаций и нормативных документов Республики Казахстан, а также с учётом международного опыта. Целью исследования является сравнительный анализ требований к компетенциям будущих учителей в странах с различными моделями управления системой образования: централизованной (Казахстан, Россия, Китай), децентрализованной (Германия) и гибридной (Швеция). В результате анализа десяти концептуальных моделей были выделены семь ключевых компетенций: предметные знания, педагогические знания содержания, оценочные компетенции, рефлексия и саморазвитие, цифровые/технологические компетенции, коммуникативные навыки и управление учебным процессом. Кроме того, определён перечень перспективных компетенций, целесообразных для включения в структуру подготовки будущих педагогов: медиаграмотность, исследовательская компетенция, проектно-ориентированные и когнитивно-активизирующие подходы в обучении, ИКТ-компетенции. Исследование выявило общие тенденции и специфические особенности в подходах к формированию компетенций педагогов в зависимости от национальных образовательных традиций и современных вызовов цифровой эпохи. Результаты исследования могут быть использованы для совершенствования программ профессионального развития педагогов и актуализации содержания педагогических дисциплин в системе высшего и профессионального образования.

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Ключевые слова: учитель, ключевая компетенция, компетенции учителя, ключевые профессиональные компетенции, педагогическое образование, профессиональные компетенции.

Introduction

The study of teachers' key competencies becomes significant in the context of the transformation of educational systems, as many countries transition to a competence-based model of teacher training. By entering the global educational space, Kazakhstan is aligning itself with the implementation of the competency-based approach as a key principle in the modernization of its education system. This approach is being consistently applied across all levels – from general secondary to higher education – and aims to develop both universal and professional competencies that meet the demands of the time. These transformations are aligned with global priorities, as reflected in Sustainable Development Goal 4 (SDG 4).

The main objective of the research is to compare interpretations of professional competencies in countries with different regulatory systems – centralized, decentralized, and hybrid. Despite the extensive body of academic literature on this topic, both in Kazakhstani and international sources, the question of a unified understanding of key competencies remains unresolved. The diversity of perspectives can be attributed not only to differences in national education policies, but also to variations in research methodologies. In this article, the authors aim to synthesize existing scholarly viewpoints and analyze frameworks that shape current standards of pedagogical practice.

The aim of the study lies in comparing professional requirements for teachers as articulated in academic literature and regulatory documents of Kazakhstan and other countries with differing models of educational governance.

The study addresses the following objectives:

- examining interpretations of key competencies of teachers in Kazakhstani and international scholarly literature;
- classifying countries by the degree of centralization in regulating teaching standards (centralized, decentralized, and hybrid systems);
- identifying universal and modern elements within the system of pedagogical competencies.

The research is centered on key teacher competencies. Special emphasis is placed on methodological differences in the formation of professional requirements for teachers in international educational practice.

Research methods and materials

A combination of scientific methods was used in the course of this study to ensure a comprehensive examination of the topic. For data collection and systematization, analytical and synthetic approaches were applied, along with the method of analogies, which helps identify common patterns. The identification of key professional competencies of teachers was carried out through modeling, based on idealized representations of pedagogical activity.

Countries with different approaches to organizing educational standards were selected. This allows for an understanding of how teacher requirements vary across educational systems.

The first group includes countries with centralized education management — Kazakhstan, Russia, and China. In these countries, teacher standards are developed at the national level.

The second group is represented by Germany, where the education system is decentralized. Key decisions are made at the level of individual federal states rather than by the central government.

Sweden is considered separately due to its hybrid model, which combines elements of both centralized and local education governance.

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This study analyzes the work of researchers from these five countries (Kazakhstan, Russia, China, Germany, and Sweden) on which professional qualities are considered most important for teachers in each educational system. This approach helps to identify both common trends and national characteristics in teacher training.

Sources were selected from national academic repositories and journals included in the list approved by the Committee for Quality Assurance in Science and Higher Education of the Ministry of Science of Kazakhstan. For the analysis of international publications, the Scopus database and journals indexed by the Higher Attestation Commission (HAC) were used. The search was conducted using the following key terms: "teachers' professional competencies," "teaching competencies," "key pedagogical competencies," "professional competence," "competency framework," and "teacher competency framework".

In examining the framework of key teacher competencies, this study draws upon the works of prominent Kazakhstani scholars such as Z.T. Teregnbayeva, Aigerim Mynbayeva, and Itzka Derizhan, who have contributed significantly to the theoretical understanding and development of these competencies in prospective educators. Furthermore, the research incorporates studies focused on countries with centralized systems for teacher competency assessment. For the Russian context, the contributions of G.Kh. Akhmetshina and T.A. Konobeeva are particularly relevant, while in China, the research of P. Du and X. Yang provides insight into the professional standards applied to educators.

Germany, representing a decentralized model, defines teacher competencies primarily at the regional or even institutional level rather than through a unified national standard. Key academic contributions in this area include the works of Blömeke and Johannes König, who have extensively explored the nature of teacher competencies within the German education system. Sweden, characterized by a hybrid model, balances state-defined educational goals with considerable autonomy granted to teachers. The competencies required of Swedish educators have been analyzed in the studies of S. Antera and Petros Gougoulakis.

Results

As part of the study, a comparative analysis was conducted of the educational systems of five countries characterized by differing educational standards and methodological approaches. From each national system, two theoretical models of teachers' key professional competencies – developed by reputable scholars – were selected. In total, ten conceptual models were analyzed, including contributions from Kazakhstani researchers in the field of pedagogy.

The analysis of various teacher education systems demonstrates that, despite the diversity of assessment criteria and structural features of professional competency models, there exists an invariant core of fundamental competencies recognized within the international educational community. This assertion is supported by a statistical analysis of the frequency with which specific competencies are mentioned in the models developed by researchers from different countries (Table 1).

Table 1 – Key competencies by models

Competency	Number of Models
Subject knowledge	9 out of 10
Pedagogical content knowledge	8 out of 10
Assessment competencies	7 out of 10
Reflection and self-improvement	7 out of 10
Technological/Digital competencies	6 out of 10
Communication skills	6 out of 10
Classroom management	5 out of 10

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Subject knowledge is recognized as a fundamental component of a teacher's professional activity, as it ensures the delivery of accurate, scientifically grounded, and up-to-date information within the taught discipline. This competence serves as the foundation for building students' cognitive base.

Pedagogical content knowledge occupies a central position in the professional practice of teachers, being in a dialectical relationship with subject knowledge. It involves the ability to adapt educational content didactically, considering learners' age, cognitive development, and psychophysiological characteristics. This competence integrates two key aspects of teaching: the substantive ("what to teach") and the procedural ("how to teach").

Assessment Competencies. This group of competencies ensures the effective diagnosis of students' academic performance, enabling the identification of both areas of successful content mastery and those requiring further development. Functionally, they serve as a mechanism for pedagogical monitoring and feedback.

Reflection and Professional Self-Improvement is a critically important component of a teacher's professional growth, supporting adaptation to rapidly changing educational paradigms, innovative technologies, and reforms in the field of education. Systematic reflection facilitates continuous professional development and the enhancement of pedagogical expertise.

Technological/Digital Competencies. Modern information and communication technologies occupy a central role in the educational process, contributing to its accessibility, effectiveness, and quality. Proficiency in digital tools has become an integral component of the education process.

Communication Skills are considered foundational professional competencies for educators. Effective communication with various participants in the educational process – students, colleagues, and parents – is essential for creating a productive learning environment and achieving pedagogical goals.

Classroom Management. Although this competence is auxiliary in comparison to subject and assessment competencies, it remains critically important for organizing an effective learning environment. A lack of classroom management skills can significantly hinder the success of teaching activities.

The majority of the professional competencies under review are of a foundational nature. In the context of a dynamically transforming educational paradigm, an evolutionary development of key teaching competencies is observed, which manifests in two primary forms:

- the emergence of innovative competency components;
- the divergence of existing competencies followed by their differentiation into new specialized domains.

The research findings made it possible to identify a number of high-potential competencies which, according to expert evaluations, should be incorporated into the key structure of professional competencies for teachers in Kazakhstan (Table 2).

Table 2 – Additional competencies

Competencies	Description
Media literacy	The ability to critically analyze, interpret, and create media content, helping students navigate and evaluate information in digital environments.
Research competency	The capacity to conduct pedagogical research, analyze data, and apply evidence-based findings to improve educational practice.
Project-Based Competencies / Cognitively Activating Education	Skills to design and implement learning activities that promote critical thinking, collaboration, and active student engagement.
ICT competencies	Proficiency in using information and communication technologies to enhance teaching, support learning, and enable professional development.

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Discussions

According to the professional standard *"Pedagogue"* of the Republic of Kazakhstan (2022), which is based on the Sectoral Qualifications Framework, school teachers are classified into two categories: qualification levels 4–5 and 6–7. The Table 3 presents the key criteria of professional competency, which are variable in nature and increase in complexity depending on the qualification level. Each criterion is accompanied by relevant indicators used for competency assessment [1].

Table 3 – Key criteria of professional competency

Category	Competency
1. Professional values	– Carries out professional duties guided by respect, responsibility, honesty, and fairness. – Manages personal professional development and enhances competencies for effective teaching practice.
2. Professional knowledge	– Understands pedagogical approaches to quality education based on: • strategic educational policy documents, • cultural values, • learning theories.
3. Teaching/learning and educational precise	– Plans the educational process. – Creates a safe and supportive environment for all learners. – Ensures achievement of learning and educational objectives.

As noted by researchers Itska Derijan and Aigerim Mynbayeva, this document serves as an important guideline for the professional development of educators. In their view, the standard sets the basic requirements, but true teacher professionalism is developed through practical experience and continuous self-improvement [2].

In their study, the authors conducted a comparative analysis of teaching competencies adopted in Kazakhstan and other countries. This approach makes it possible to identify both common trends in teacher training and the national characteristics of the Kazakhstani education system.

According to the analysis conducted, the key professional competencies of teachers include (Table 4):

Table 4 – Key professional competencies by I. Derijan and A. Mynbayeva

Competency Area	Description
1. Planning competence	Ability to design effective curricula and lesson plans aligned with standards and responsive to individual student needs.
2. Methodological competence	Proficiency in modern pedagogical technologies and teaching techniques.
3. Advisory competence	Ability to provide professional guidance and support to students throughout the learning process.
4. Qualification competence	Ongoing maintenance and improvement of professional knowledge and skills to meet current educational demands.
5. Media literacy	Ability to effectively integrate digital technologies and media resources into teaching practices.
6. Examination competence	Professional execution of assessment tasks, including standardized testing.
7. Evaluation competence	Objective analysis of students' academic performance using diverse evaluation criteria.
8. Contextual competence	Understanding of socio-cultural influences on learning and the ability to adapt teaching to various contexts.

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These competencies form a comprehensive profile of the modern teacher, combining subject knowledge with pedagogical expertise and a commitment to ongoing professional development.

Through the analysis of academic works by Kazakhstani and international researchers, Zh.T. Tergenbayeva established that the professional competence of future teachers involves a set of essential characteristics. This refers to the modern teacher's ability to independently find solutions to various educational and methodological challenges [3].

Particular emphasis is placed on the ability for continuous professional growth. Such growth is achieved through the systematic renewal and expansion of one's knowledge base, the development of practical skills, and the refinement of pedagogical abilities. The researcher emphasizes that true competence is revealed not merely by holding certain qualifications, but by the ability to creatively apply one's knowledge in real educational situations.

Zh.T. Tergenbayeva identifies five key areas of professional competencies that characterize a qualified specialist (Table 5).

Table 5 – Professional competencies by Zh.T. Tergenbayeva

Competency Type	Description
1. Applied professional competencies	Deep understanding and practical application of working methods and technologies; continuous professional development and implementation of innovations.
2. Social competencies	Awareness of social responsibility; teamwork; conflict resolution; intercultural communication; tolerance for diverse worldviews.
3. Psychological competencies	Self-analysis, reflection, and social interaction skills; ability to build effective professional relationships.
4. Technological competencies	Confident use of digital tools and innovative technologies; ongoing technological skill development.
5. Linguistic and communicative competence	Fluency in foreign languages and high speech culture; essential for international cooperation and professional communication.
6. Applied professional competencies	Deep understanding and practical application of working methods and technologies; continuous professional development and implementation of innovations.

Pedagogical research in Kazakhstan offers a broader and more multidimensional perspective on the structure of teachers' professional competencies. Particular emphasis is placed on the development of technological and communicative skills, reflecting the current demands of digital transformation in education and the need for effective interaction within the educational environment. At the same time, the importance of a systematic approach is highlighted—one that involves the purposeful and gradual formation of competencies, the integration of theoretical and practice-oriented components, and their continuous updating in response to evolving educational conditions.

In 2012, the Ministry of Education of the People's Republic of China introduced the "National Professional Standard for Educational Workers." This document was the first to systematically outline the qualification criteria for teachers at various levels of general education. The standard differentiates teachers' professional competencies based on the level of education, establishing specific qualification requirements for primary and secondary school teachers [4] (Table 6).

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Table 6 – National Professional Standard for Educational Workers

Dimensions	Main Aspects
1. Professional ethics and morality	- Understanding of teaching as a profession - Attitudes and behaviour towards students - Attitudes and behaviour towards education and teaching
2. Professional knowledge	- Pedagogical knowledge - Subject matter knowledge - Subject matter pedagogical content knowledge - Knowledge of educational context
3. Professional ability	- Teaching design - Implementation of teaching - Classroom management and education - Assessment and evaluation - Reflection and self-development

As part of Du's (2011) research, "a conceptual model of professional skills for primary and secondary school teachers was developed, encompassing seven key competencies" (Table 7) [5].

Table 7 – Key competencies of primary and secondary school teachers of China

Competency Area	Description
1. Designing the learning process	Ability to plan and structure educational activities effectively.
2. Developing and utilizing educational resources	Skills in creating and applying appropriate teaching materials and tools.
3. Presenting material clearly	Use of verbal and non-verbal means (spoken language, gestures, visual aids) to enhance understanding.
4. Pedagogical interaction techniques	Proficiency in engaging students through effective communication, including questioning methods.
5. Organizing and monitoring learning activities	Managing classroom tasks, supporting student engagement, and tracking progress.
6. Conducting assessment activities	Planning, implementing, and analyzing various forms of student evaluation.
7. Academic and pedagogical work skills	Competence in combining subject expertise with effective teaching practice.

In a study by Wei et al. (2017), "a model of teachers 'professional competencies' was developed based on interviews with experienced educators in China." [6] The participants identified six key aspects most relevant to teaching practice (Table 8):

Table 8 – Professional competencies of Chinese teachers

Competency Area	Description
1	**2**
1. Subject literacy	Deep knowledge of the discipline, mastery of professional skills, methods, and subject-specific thinking.
2. Basic pedagogical skills	Ability to clearly present material using speech, gestures, facial expressions, and written forms; use of digital technologies in teaching.
3. General pedagogical and subject-specific methodological knowledge	Understanding of teaching principles and how to convey subject-specific knowledge effectively.

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Continuation of Table 8

1	2
4. Design and analysis of the learning process	Ability to develop, implement, and evaluate educational activities and their outcomes.
5. Professional ethics and self-efficacy	Adherence to ethical standards in teaching and confidence in one's professional capabilities.
6. Reflection and research activity	Skills in analyzing teaching practice and conducting academic-pedagogical research.

This model reflects a comprehensive approach to understanding teaching excellence, combining both practical skills and the personal-professional qualities of a teacher.

Research conducted by Chinese scholars in the field of pedagogy offers more detailed and conceptually grounded models for the development of teachers' professional competencies. Unlike regulatory documents, which focus primarily on universal categories – such as professional knowledge, skills, and ethical standards – academic approaches place particular emphasis on the development of research skills and self-reflection. These scholarly models not only refine the structure of core competencies but also contribute to the creation of a more comprehensive assessment system that is better aligned with the demands of contemporary educational processes.

The Federal State Educational Standards (FSES) of Russia (2018) represent a new generation of standards that define the competencies required of schoolteachers [7]. These competencies are generally categorized into two groups: universal competencies and general professional competencies (Table 9).

Table 9 – FSES Competencies of Russia

Category	Competencies
1. Universal competencies	– Systemic and critical thinking – Project development and implementation – Teamwork and leadership – Communication – Intercultural interaction – Self-organization and self-development (including health preservation) – Life safety awareness
2. General professional competencies	– Regulatory foundations of professional activity – Design of core and supplementary educational programs – Organization of collaborative and individual learning and educational activities – Creation of an educational environment that supports personal development – Monitoring and evaluation of educational outcomes – Application of psychological and pedagogical methods in teaching – Collaboration with stakeholders in education – Scientific foundations of pedagogical practice

G.Kh. Akhmetshina in research conducts a comprehensive assessment of the professional competencies of modern educators, employing surveys and analyses of their ability to evaluate the effectiveness of lessons. As the methodological basis for the study, the author utilizes the Federal State Educational Standards (FSES) of Russia, which are regarded as a key benchmark for teachers' self-assessment of their professional qualities [8].

Drawing on the requirements of the FSES, Akhmetshina systematically categorizes and defines the key competencies of contemporary teachers (Table 10).

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Table 10 – Key competencies of contemporary teachers

Competency Type	Description
Methodological competence	Ability to design and implement the educational process using modern pedagogical methods.
1. Technological competence	Proficiency in interdisciplinary teaching technologies that promote a holistic worldview and intersubject connections in students.
2. Research competence	Ability to reflect on one's professional activity, use pedagogical research methods, and apply research results in practice.
3. ICT competence	Effective use of digital tools and information and communication technologies in the educational process.
4. Psychological and pedagogical competence	Knowledge of students' developmental and individual traits, and the ability to apply differentiated instructional strategies.

According to Akhmetshina's findings, the FSES serve not only as a regulatory framework but also as an instrument for identifying competency deficits, thereby enabling teachers to determine directions for their further professional development.

T.A. Konobeeva presents the outcomes of the educational project "New Pedagogical Class in a Moscow School" (NPC), designed to foster the development of key professional competencies among future educators. The project is theoretically and methodologically grounded in L.S. Vygotsky's cultural-historical theory, which provides a framework for structuring the process of competency formation based on the principles of the activity approach and the zone of proximal development.

According to Konobeeva, the competency development system established within the project:

- addresses contemporary challenges in pedagogical practice;
- is based on the psychological and pedagogical principles underlying personality development;
- ensures a seamless integration of theoretical preparation and practical application.

The project outcomes indicate that the competencies acquired by participants are aligned with the requirements of the Federal State Educational Standards (FSES), thereby validating, in Konobeeva's view, the efficacy of applying the cultural-historical approach in the design of professional development programs for educators (Table 11).

This study is of particular relevance within the broader context of the modernization of teacher education, as it proposes a model of competency development that synthesizes the theoretical foundations of cultural-historical psychology with the evolving demands of contemporary educational standards.

Table 11 – Key competencies of teachers

Competency group	Description of competencies
1. Group One	- Ability to access and navigate information from diverse sources. - Capacity for critical evaluation of information. - Proficiency in using information and communication technologies. - Ability to act as a mediator in communication and interaction.
2. Group Two	- Ability to articulate and defend one's own position. - Capacity to initiate and sustain collaborative activities. - Skills in conflict regulation and resolution.
3. Group Three	- Ability to self-regulate, take responsibility, and pursue set goals. - Capacity for self-awareness regarding one's emotions, desires, and motivations.

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The conceptual models of professional competencies developed by Russian researchers G.Kh. Akhmetshina and T.A. Konobeeva expand upon the provisions of the Federal State Educational Standards (FSES). The proposed models emphasize a practice-oriented approach and the individualization of teachers' professional development, complementing the regulatory requirements with significant aspects of professional formation [9].

Teachers' professional competencies in Germany are regulated by the national standard for teacher education (*Standards für die Lehrerbildung: Bildungswissenschaften*), adopted by the Standing Conference of the Ministers of Education and Cultural Affairs of the States (KMK) in 2004 (Table 12) [10]. Unlike centralized systems, the KMK standards define general requirements, while the specification and operationalization of competencies are carried out at the level of individual state ministries and teacher training universities.

Table 12 – National standard for teacher education in Germany

Competency Area	Competencies
1. Teaching	– Planning and delivering lessons – Supporting students' learning activities – Fostering students' independence
2. Upbringing\ Educational support	– Considering students' social and cultural backgrounds – Teaching values and norms – Managing problems and conflicts
3. Assessment	– Conducting diagnostics and providing guidance – Assessing student achievement
4. Professional development and innovation	– Demonstrating professional responsibility – Engaging in continuous self-development – Participating in school projects

In their research, A. Jentsch and J. König proposed a conceptual model of pedagogical competencies, integrating theoretical frameworks from leading experts in the field (Table 13). The methodological foundation of the study was based on the works of German scholars such as Baumert and Kunter, Cochran-Smith, Zeichner, and Richter [11].

Table 13 – Pedagogical competencies

Category	Components
1. Professional knowledge	- Subject knowledge - Pedagogical content knowledge - Educational theory
2. Affective-motivational characteristics	- **Beliefs:** • Subject-related • Teaching-related • School-related - **Career Motivation:** • Personality traits (e.g., self-efficacy)

As a result of a comprehensive analysis of empirical studies conducted over the past two decades, S. Blömeke (Table 14) identified key teaching competencies that have a significant impact on students' academic achievement. The researcher carried out a systematic review of scientific data followed by the verification of findings through independent research, which enabled the identification of the most influential professional competencies of teachers [12].

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Table 14 – Competencies of teachers by Blömeke

Competency Area	Specific Competencies
1. Subject-specific competencies	- **Content Knowledge (CK):** In-depth understanding of the subject matter. - **Pedagogical Content Knowledge (PCK):** Ability to adapt subject content for teaching, considering students' age and proficiency levels.
2. Didactic and methodological competencies	- Ability to design and conduct cognitively engaging lessons. - Proficiency in diagnostic methods and learner support.
3. Psychological and pedagogical competencies	- Understanding of children's learning and developmental processes. - Classroom management and student motivation.
4. Reflective and self-regulatory competencies	- Ability to analyze one's teaching practices and adapt accordingly. - Readiness for ongoing professional development.
5. Assessment competencies	- Ability to implement formative and summative assessments. - Interpretation of results to inform instructional decisions.

German researchers, building on the principles outlined in the documents of the Standing Conference of the Ministers of Education and Cultural Affairs (KMK), make significant contributions to the understanding of teachers' professional competencies. Their approaches place particular emphasis on the personal dimension of professionalism – specifically, the motivational component, which encompasses internal attitudes, a commitment to lifelong learning, and a drive for continuous pedagogical improvement. As a result, the scholarly models developed by German experts go beyond regulatory definitions, offering a more nuanced and holistic characterization of the modern teacher's professional identity.

The Swedish National Agency for Education (*Statens skolverk* or *Skolverket*), established in 1991, oversees the school system for both children and adults [13]. The agency defines the general framework for teacher competencies, while the assessment of a teacher's competence is determined at the school level. In addition, *The Teacher Education Committee of Sweden* has developed its own competency model; however, it serves only as a recommendation and does not carry the same binding authority as the *Skolverket* standards (Table 15).

Table 15 – Teacher competencies of Sweden

Competence Area	Competencies
Skolverket Competencies	Subject knowledge; A didactic competence; Assessment and feedback competencies; Classroom management; Digital literacy; Social and ethical responsibility.
***Teacher Education Committee* Competencies**	A cognitive competence; A cultural competence; A communicative competence; A creative competence; A critical competence; A social competence; A didactic competence.

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According to a study conducted by Sofia Antera, Marianne Teräs, Staffan Nilsson & Helena Rehn, an effective teacher must possess a wide range of professional competencies [14]. The researchers identified 27 key competencies, among which five stand out as especially important (Table 16).

Table 16 – Professional competencies

Competency Area	Description
1. Effective communication with students	Ability to build a trusting dialogue, explain material clearly, and maintain feedback.
2. Assessing students' knowledge and skills	Objective analysis of academic performance, identifying each student's strengths and areas for improvement.
3. Creating conditions for learning and development	Organizing an educational environment that considers the individual needs of students.
4. Combating discrimination and misconduct	Taking an active stance in preventing bullying, inequality, and other forms of unfair treatment.
5. Reflection and teaching improvement	Ongoing self-analysis, the search for new methods, and the adaptation of pedagogical approaches.

These principles reflect not only the professional but also the social and ethical dimensions of a teacher's work, which is especially important in today's educational system.

P. Gougoulakis examines the evolving expectations regarding teacher preparation in Sweden. He emphasizes that, following the institutionalization of *utbildningsvetenskap* (educational science), the Council for Teacher Education developed a set of key professional competencies for teachers. Based on his analysis, the author organized these competencies into a structured three-tier classification (Table 17).

Table 17 – Key professional competencies for teachers

Components of teacher competence	Description
1. General domains	A combination of skills, abilities, knowledge, and beliefs essential for fulfilling professional teaching duties.
2. Subject matter knowledge	Core facts, theories, and concepts relevant to the subjects taught.
3. Principles of learning and teaching	Both general and subject-specific pedagogical principles aimed at promoting learners' understanding and development.

In P. Gougoulakis' work, the evolution of the demands on teachers' professional competence is traced from the 1960s to the present day [15]. The author conducts a retrospective analysis, highlighting significant shifts in the system of teacher education following the establishment of the Education Science Committee in 1997, as well as the subsequent reforms aimed at modernizing professional standards for educators in response to the rapidly developing educational models.

Studies conducted by Swedish researchers emphasize a humanistic paradigm in the formation and assessment of teachers' core competencies. In contrast to predominantly structural or regulatory models, this approach foregrounds the social dimensions of professional activity, such as empathy, communicative sensitivity, and the ability to build individualized trajectories of interaction with students. This perspective reflects a value-oriented understanding of the teaching profession, in which personal engagement and respect for each student's uniqueness are seen as defining features of professional competence.

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Most researchers agree that the competencies under consideration are essential to the teaching profession. Many of them have already become traditional and are formalized in the current Professional Standard for Teachers in the Republic of Kazakhstan. At the same time, the competency models proposed in academic literature often go beyond state or recommended frameworks. For example, in the Kazakhstani standard, technological and digital competencies are not presented as independent categories but rather as indicators within a broader area—namely, "2. Professional Knowledge," specifically sub-item 2.2.6: "Applies information technologies in the educational process to enhance teaching and upbringing" (Appendix 1 to the Professional Standard "Pedagogue").

However, digital technologies inherently require systematic knowledge, practical skills, and functional abilities, which qualify them as a distinct professional competency rather than a mere indicator. Therefore, in the context of education digitalization, teachers are increasingly mastering and developing modern professional competencies that meet contemporary demands.

In particular, media literacy, as presented in the model developed by Itzke Derijan and Aigerim Mynbayeva, emphasizes the need to introduce a new core competency. The ability to critically assess, select, and adapt information has become a crucial part of the teacher's professional function, especially in an environment where students actively interact with the digital information space.

A. Akhmetshina, in her model, highlights the importance of research competency. According to Appendix 4 of the Professional Standard "Pedagogue," the profile of a teacher at qualification levels 4–5 includes: "studying current research on the improvement of the educational process and conducting lesson study." For teachers at levels 6–7, research activity is defined as an element of additional professional engagement: "designing research and disseminating best practices." However, in the context of the current standard, research activity is often limited to secondary analysis of existing data. Meanwhile, the modern teacher should not only interpret existing studies but also possess the skills of primary research, critical analysis, and knowledge creation, while also fostering students' research abilities.

Moreover, the works of S. Blömeke, Y. Du, Y. Wei, and others, as well as the studies of A. Akhmetshina, emphasize the importance of competencies in project-based activity and cognitively activating teaching. Project-based competencies encompass a set of knowledge, skills, and personal qualities necessary for planning, implementing, and evaluating instructional, research, or extracurricular projects. Cognitively activating lessons promote the development of students' cognitive abilities and focus on fostering self-awareness, critical thinking, and creative problem-solving skills.

Conclusion

The analysis revealed that despite differences in national approaches to assessing teachers' professional competencies, there are several stable, universally recognized components that form the core of teaching practice. This indicates a global trend towards the convergence of educational systems in the direction of a competency-based paradigm. Key competencies identified through the research include subject knowledge, pedagogical content knowledge, assessment competencies, reflection and self-improvement, technological/digital competencies, communication skills, classroom management. Additionally, emerging competencies were identified that are necessary for adapting to new professional requirements driven by the transformation of the educational environment: media literacy, research competency, project-based competencies/cognitively activating lessons, ICT/Digital competencies.

The findings can be practically applied in the development of teacher professional development programs, as well as in the updating of pedagogical course content in higher and vocational education institutions. A more extensive study is planned in the future, with a focus on

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interdisciplinary analysis and the development of a flexible model of professional competencies that aligns with the realities of contemporary educational practice.

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