THE CONCEPT OF "SCIENTIFIC AND METHODOLOGICAL POTENTIAL" IN PEDAGOGY

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Abstract. The thesis examines the evolution of the concept of "scientific and methodological potential" from its origins in the post-Soviet pedagogical tradition to its interpretation in the light of contemporary international researcher competence frameworks. It identifies the distinctive features of the concept, compares it with related international constructs and proposes an integrative definition suitable for the modernization of teacher-researchers' professional development.

Keywords: scientific and methodological potential; research competence; teacher-researcher; post-Soviet pedagogy; ResearchComp; researcher development

Introduction. The transformation of higher education in Uzbekistan has placed new demands on teacher-educators. The Concept for the Development of the Higher Education System until 2030 (Decree No. UP-5847, 2019) and the Concept for the Development of Science until 2030 (Decree No. UP-6097, 2020) set the goals of integrating national universities into the international academic space and increasing their research productivity. Pedagogical universities are expected to play a leading role in this process, which requires teacher-educators to act not only as teachers but also as researchers whose work meets international standards.

In national pedagogical discourse, the readiness of academic staff for research has traditionally been described through the concept of "scientific and methodological potential". In international literature, however, similar phenomena are described through other terms, such as research competence, research capacity and researcherly disposition (Tack & Vanderlinde, 2014). The coexistence of these terminological traditions creates difficulties both for theoretical analysis and for the practical alignment of national requirements with international standards. The aim of this thesis is to clarify the content of the concept of scientific and methodological potential and to show how it can be connected with international researcher competence frameworks.

The Post-Soviet Tradition: Potential as a Resource for Development

In the pedagogical literature of the post-Soviet space, "potential" denotes the totality of available and latent resources that a person or an organization can mobilize to achieve professional goals. Applied to academic staff, the concept usually encompasses knowledge, abilities, experience, motivation and values that enable a teacher to conduct research and to develop teaching methods. The qualifier "scientific and methodological" reflects the dual mission of pedagogical institutions: "scientific" refers to the production of new knowledge through research, while "methodological" refers both to mastery of research methodology and to the ability to translate research into teaching methods, curricula and instructional materials.

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Three features distinguish this concept. First, it is prospective: it refers not only to what a teacher currently does but also to what he or she is capable of achieving, which links it to Vygotsky's (1978) idea of the zone of proximal development. Second, it is resource-based: it includes motivational, axiological and experiential resources that cannot be reduced to skills. Third, it is actualizable: potential becomes visible in performance only under favourable conditions, which makes the institutional environment an integral part of the concept.

At the same time, the traditional use of the concept has limitations. It is often defined descriptively, with components listed rather than derived from explicit theory, and it is frequently treated as a synonym of research skills or research culture. Moreover, it has rarely been compared with the international frameworks that now define expectations for researchers.

International Frameworks: Competence-Based Descriptions of Researchers

International approaches describe researchers predominantly through the language of competence. Following Weinert (2001), competence is understood as the combination of cognitive abilities and skills with motivational, volitional and social dispositions that enable successful performance. Contemporary competence theory views competence as a continuum that links underlying dispositions with situation-specific skills and observable performance (Blömeke et al., 2015).

Several frameworks apply this approach to researchers. The European Framework for Research Careers (European Commission, 2011) distinguishes four researcher profiles, from First Stage Researcher (R1) to Leading Researcher (R4). The Vitae Researcher Development Framework (Vitae, 2010) describes researcher attributes in four domains: knowledge and intellectual abilities; personal effectiveness; research governance and organisation; and engagement, influence and impact. ResearchComp, the European competence framework for researchers (European Commission, 2023), sets out transversal competences grouped into areas such as cognitive abilities, doing research, managing research, working with others and making an impact. These frameworks share a broad understanding of researcher capacity that goes far beyond methodological skill and includes personal effectiveness, ethics, collaboration and societal impact.

Comparing the Two Traditions

A comparison of the two traditions shows that they are complementary rather than contradictory. International frameworks offer a detailed, structured and internationally recognized description of what researchers should be able to do, together with a clear developmental logic. However, they focus mainly on demonstrated competences and on researchers in general, without special attention to teacher-educators. The post-Soviet concept of potential, by contrast, emphasizes the developmental and resource-based dimension and explicitly includes the methodological, that is, teaching-related, mission of pedagogical institutions, but it lacks a rigorous structure and international comparability.

The main differences can be summarized as follows. Competence describes what a researcher can demonstrate now, whereas potential also includes what he or she can become under supportive conditions. Competence frameworks are mostly individual in focus, whereas potential is an individual-in-context concept. Finally, international frameworks treat teaching and research as related but separate activities, whereas the concept of scientific and methodological potential places their integration at the centre.

Towards an Integrative Definition

On this basis, the thesis proposes the following integrative definition: the scientific and methodological potential of a teacher-researcher is a dynamic, integrative and partly latent system of motivational, epistemological, methodological, reflexive, ethical and communicative resources that

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enables the teacher-researcher to generate valid pedagogical knowledge, to translate it into educational practice and to disseminate it to scholarly and professional communities, and that is actualized and developed through interaction with institutional, national and international research environments.

This definition preserves the strengths of the national tradition, namely its developmental orientation and attention to teaching, while using international frameworks as a reference point for its structure. Each of its six components corresponds to domains described in international frameworks: the epistemological and methodological components correspond to the cognitive and "doing research" areas of ResearchComp and Domain A of the Vitae framework; the motivational component to personal effectiveness; the ethical component to research governance and integrity; and the communicative component to engagement, influence and impact. The reflexive component, which links research with teaching practice, draws on the traditions of reflective practice (Schön, 1983) and inquiry as stance (Cochran-Smith & Lytle, 2009), and represents the specific contribution of the concept to understanding teacher-researchers.

Conclusion. The concept of scientific and methodological potential remains valuable for describing the research capacity of teacher-educators, but its use in the context of modernization requires theoretical clarification and alignment with international standards. Interpreting the concept through international researcher competence frameworks makes it structured, measurable and internationally comparable, while its developmental and practice-oriented character complements these frameworks. The integrative definition proposed in this thesis can serve as a basis for developing assessment criteria, professional development programmes and a conceptual model for modernizing the scientific and methodological potential of teacher-researchers in Uzbekistan.

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