

УДК 378.6:37(477.53)(092):001.895:005.336.4

DOI [HTTPS://DOI.ORG/10.33989/2075-146X.2026.37.361902](https://doi.org/10.33989/2075-146X.2026.37.361902)

**SERGIY SHKOLYAR**

ORCID: 0009-0000-2072-3933

Poltava V.G. Korolenko National Pedagogical University

## **COLLABORATION OF INTELLECTUAL RESOURCES IN A SCIENTIFIC PEDAGOGICAL SCHOOL**

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The article presents a comprehensive theoretical, methodological, and applied analysis of the phenomenon of intellectual resource collaboration within the scientific pedagogical school of Professor Marina V. Grynova. Intellectual resources are conceptualized as an integrated system comprising human, social, organizational, and innovation capital, whose interaction ensures the sustainable development of the academic and educational environment. Based on a case study of pedagogical workshops at the Department of Pedagogical Excellence and Management named after I. A. Ziaziun at Poltava V. G. Korolenko National Pedagogical University, it is demonstrated that intellectual resource collaboration operates as a multi-level system encompassing internal, institutional, inter-institutional, regional, national, and international levels. The study substantiates the role of pedagogical workshops as functional units of intellectual capital formation, contributing to the development of research potential, communicative competence, innovative thinking, and academic leadership among students. Particular attention is paid to the system-forming role of the pedagogical workshop “Self-regulation of manager’s activity,” which serves as the methodological core of the scientific school and ensures integration of its structural components. The importance of the STEMIP intellectual workshop is highlighted as an innovative mechanism integrating education, science, and intellectual property, facilitating the transformation of research outcomes into protected intellectual assets. The findings confirm that the synergy of intellectual resources enhances the quality of educational programs, increases research productivity, fosters innovation capacity, and strengthens the competitiveness of the scientific school in national and international academic environments.

**Ключові слова:** *scientific school, intellectual resources, collaboration, pedagogical science, academic leadership, innovative development, intellectual property*

**Problem statement.** In the context of the ongoing transformation of higher education and the integration of Ukrainian science into the global research space, the issue of effective utilization of intellectual resources of research teams is becoming increasingly relevant. A scientific school, as a form of organizing research activity, serves as a center for knowledge production, the development of new scientific directions, and the training of academic and teaching staff.

The collaboration of intellectual resources within a scientific school ensures not only the accumulation of knowledge but also its transfer, commercialization, interdisciplinary integration, and scaling of research outcomes.

**Analysis of recent research.** The issue of scientific schools has been examined in the works of Ukrainian scholars in the context of the development of academic leadership, the formation of research communities, and the institutional autonomy of higher education institutions (Shkolyar, & Grynova, 2024a; Shkolyar, & Grynova, 2024b; Shkolyar, 2025). At the same time, the issue of systematic collaboration of intellectual resources within a specific pedagogical school requires deeper analysis from the perspective of modern theories of intellectual capital and knowledge management.

**Purpose of the article.** The purpose of this study is to substantiate the theoretical foundations and practical mechanisms of collaboration of intellectual resources in the scientific pedagogical school of Professor Marina Viktorivna Grynova, based on the example of the functioning pedagogical workshops of the Department of Pedagogical Mastery and Management named after I. A. Ziaziun at the Poltava V. G. Korolenko National Pedagogical University.

**Theoretical Foundations of the Study.** The essence of intellectual resources of a scientific school lies in the fact that they should be considered as an integrated system (Shkolyar, 2023a; 2023b; Shkolyar, 2024a), which includes the following elements: human capital – the scientific potential of the school leader, their students, PhD candidates, and doctoral researchers; social capital – a network of professional connections, partnerships, and scientific communications; organizational capital – internal regulations, traditions, and research culture; innovative capital – R&D results, authorial methodologies, and educational technologies.

As long-term practice has shown, within the scientific school of Professor M. V. Grynova these components function interdependently, forming a unified system of intellectual development. Essentially, the model of the school itself implies a multi-level nature of collaboration of intellectual resources (Shkolyar, 2024b), as presented in Table 1. The synergistic effect of such interaction is manifested in the increase in both the quantity and quality of scientific results, the training of competitive specialists, and the formation of a sustainable academic brand of the school.

**Multilevel nature of intellectual resource collaboration**

No.	Level	Characteristics
1	Internal	Interaction between the school leader and students; mentoring; joint research activities
2	Institutional	Cooperation with departments, faculties, institutes, and research centers
3	Interinstitutional	Partnerships with other higher education institutions and research organizations, consulting companies (including in the field of intellectual property), and enterprises of the real sector of the economy
4	Regional	Partnership interactions with territorial communities
5	National	Integration into the national scientific and educational space of Ukraine
6	International	Participation in grant programs, academic mobility, joint publications

Let us consider some specific features of the scientific pedagogical school of Professor M. V. Grynova. A key feature is that Marina Viktorivna serves as the Rector of the Poltava V. G. Korolenko National Pedagogical University. Therefore, it is evident that, as the head of the institution, guided by the strategic development goals of the university, she continuously promotes the expansion of cooperation at the international, national, regional, and institutional levels. Based on the above, the following priorities are characteristic of her professional approach:

1. Leadership component, where the head of the school acts not only as a generator of scientific ideas but also as a strategic manager of intellectual development.
2. Mentorship model, within which the transmission of scientific culture is carried out through individual development trajectories of students.
3. Innovation orientation, which involves the development of original pedagogical concepts and methodologies.
4. Network interaction, which ensures active participation in conferences, expert councils, and professional communities.

Thus, the collaboration of intellectual resources within the school ensures the formation of a scientific ecosystem in which each participant is simultaneously a bearer and producer of knowledge. It is evident that an important component of this system is the managerial dimension of collaboration, which ensures its effectiveness through strategic planning of research directions, the creation of research groups, the development of a culture of academic integrity, the digitalization of scientific communication, and the integration of research results into the educational process. Therefore, the collaboration of intellectual resources emerges as a tool for managing the development of a scientific school.

Considering the scientific school as a form of organizing intellectual interaction, it can be stated that it represents a socio-intellectual community formed around a scientific leader, a shared research program, and a system of values. In this regard, within the pedagogical field, it performs the functions of generating innovative concepts of teaching and education, training academic and teaching staff, shaping regional and national educational discourse, and integrating science and practice. Consequently, the scientific school of Professor M. V. Grynova is characterized by a combination of humanistic pedagogical tradition, a managerial approach to the development of educational systems, and an innovation-oriented focus.

Within the framework of the study, we will assess the activities of the Department of pedagogical mastery and management named after I. A. Ziaziun. It is undeniable that the department implements an integrated model for the development of a scientific school. This model combines the traditions of classical academic pedagogy with modern innovative approaches to organizing research activities. Within the structure of the department, scientific units operate that have been established on the basis of a long history of research and the creative development of the educational environment.

The scientific infrastructure of the department includes:

- the Research Laboratory of pedagogical mastery and management named after I. A. Ziaziun, which functions as a structural unit of the university's research division;
- the International and All-Ukrainian Makarenko studies center with the scientific online resource "Makarenkiana";
- the Center for coordination of pedagogical communities, which ensures the organization of professional communication and academic interaction;
- the Center for the study of the department's history as an institutional platform for preserving and developing scientific traditions.

A distinctive feature of the contemporary stage is the implementation of the project "Workshops of academic and teaching staff of the department". This project serves as a key instrument for the collaboration of intellectual resources and the development of the scientific school. The structure of the project includes the following pedagogical workshops: Professor Marina Grynova – "Self-regulation of managerial activity"; Professor Olena

Zhdanova-Nedilko – “Manager’s communicative culture”; Professor Nataliia Kononets – “Models of resource-oriented learning”; Professor Andrii Tkachenko – “Scientific inquiry and pedagogical innovation”; Associate Professor Nina Pivovar – “Student-centered approach in the professional training of managers”; Associate Professor Iryna Babenko – “Professional culture of managers: leadership and image-based approach”; Associate Professor Oksana Bolsha – “Culture of educational quality”; Assistant Inna Ishchenko – “Workshop of Creativity: Development of Professional Thinking”.

Let us briefly consider the contribution of each workshop to the development of the scientific school. The pedagogical workshop of Professor Olena Zhdanova-Nedilko, “Communicative culture of a master’s student in educational sciences”, functions not only as an educational component of student training but also as a strategic mechanism for developing the intellectual potential of the school. The conceptual role of this workshop within the structure of the scientific school lies in its function as an innovative teaching and research module, a laboratory for developing professional communicative competence, and a space for integrating theory, research practice, and academic leadership. Its activity is aligned with the human-centered and cultural paradigms of the school, strengthening the axiological and reflective dimensions of professional training. Furthermore, within the framework of developing the school’s human capital, the workshop contributes to the formation of master’s students’ communicative culture as future researchers and educators, the development of academic writing skills, scientific discussion, public presentation of research results, and the establishment of a reflective position of a young researcher. Thus, the quality of student training is enhanced, and students become active participants in the school’s research projects. Consequently, the pedagogical workshop of Professor Olena Zhdanova-Nedilko represents an important institutional mechanism for the development of the scientific school of Professor Marina Grynova. It ensures the collaboration of intellectual resources, fosters a high level of communicative culture among master’s students, and strengthens the strategic development of pedagogical science.

The analysis of the pedagogical workshop “Scientific inquiry and pedagogical innovation” by Professor Andrii Tkachenko demonstrates that, within the structure of the scientific pedagogical school of Professor Marina Grynova, it serves as a strategic instrument for developing the research potential, innovation culture, and academic competitiveness of the school. The conceptual mission of the workshop is focused on fostering research thinking among master’s and doctoral students, developing a culture of scientific inquiry, integrating innovative pedagogical ideas into educational practice, and preparing students for independent research activity. Within the framework of the school, it ensures a transition from the acquisition of theoretical knowledge to the creation of new scientific products. From the perspective of human capital development, the workshop cultivates skills in problem formulation, hypothesis construction, and the design of research models, as well as competencies in the methodology of pedagogical experimentation and the ability for innovative thinking. This enhances the quality of dissertation research and scientific publications produced by members of the school. Thus, the workshop transforms scientific inquiry from an individual activity into a collective intellectual process, while strengthening the innovation, methodological, and research components of the school, thereby ensuring its sustainable development and academic competitiveness.

Within the system of the scientific pedagogical school of Professor Marina Grynova, the pedagogical workshop “Models of resource-oriented learning” by Professor Nataliia Kononets functions as an innovation and methodological center that ensures the technological and digital renewal of the school’s research and educational environment. The conceptual foundation of the workshop is based on the idea of resource-oriented learning as an approach that presupposes the integration of diverse educational resources (digital, informational, human, and environmental), the active role of learners in selecting and using resources, the personalization of educational trajectories, and the combination of formal, non-formal, and informal education. Within the framework of the scientific school, this model expands traditional approaches to professional training by combining a humanistic paradigm with the digital transformation of education. Professor Kononets’ creative approach contributes to the development of the school’s intellectual capital, fostering digital pedagogical competence among master’s and doctoral students, the ability to design educational environments, skills in working with open educational resources, and research competencies in the field of educational innovation. This enhances the quality of dissertation research and promotes the emergence of new thematic directions within the scientific school. It is important to emphasize the synergistic effect for the scientific school, as the workshop integrates the humanistic tradition of the school with digital innovations, creates conditions for interdisciplinary integration, expands international cooperation opportunities, and strengthens the project-based culture of research activity. Thus, the workshop transforms educational resources into a strategic factor of the scientific school’s development. Strategically, the “*Models of Resource-Oriented Learning*” workshop ensures the digital modernization of the school, improves the quality of scientific publications in the field of pedagogical innovation, strengthens the school’s innovative brand, and creates favorable conditions for participation in international grant programs. Undoubtedly, the pedagogical workshop of Professor Nataliia Kononets is an important driver of the development of the scientific pedagogical school of Professor Marina Grynova. It ensures the technological modernization of research activity, the integration of digital resources into pedagogical practice, and the formation of a modern model of resource-oriented learning as a component of the school’s intellectual capital.

Considering the achievements of the pedagogical workshop of Associate Professor Nina Pivovar “Student-

centered approach in the professional training of specialists”, it should be noted that it performs a humanistic and methodological function aimed at modernizing the content and technologies of professional education and developing the subjectivity of learners. The conceptual role of the workshop is based on the priority of the learner’s personality, individualization of educational trajectories, partnership interaction between “teacher–student,” and the formation of responsibility for one’s own learning. Within the scientific school, this strengthens the humanistic tradition and promotes a transition from a knowledge-based model to a competence-based one.

The socio-communicative effect is revealed through the student-centered approach, which strengthens trust between participants in the educational process, increases motivation for scientific inquiry, fosters an active research position among students, and expands their participation in scientific events and projects. The workshop contributes to the formation of an academic community based on cooperation, ensures the development of learners’ agency, the modernization of educational technologies, and the strengthening of a partnership culture within the academic environment.

Evaluating the pedagogical workshop of Associate Professor Iryna Babenko “Professional training of specialists: leadership and image-based approach”, it can be stated that it is oriented toward the prospective development of strategic, reputational, and managerial functions aimed at forming learners’ leadership potential and enhancing the image capital of the scientific school. The conceptual foundation of the workshop is based on the integration of professional competence, leadership qualities, image culture of the specialist, and strategic thinking. Within the scientific school, this implies the preparation not only of a competent performer but also of an initiative-driven leader of educational change. The strategic significance for the development of the school lies in the fact that the workshop’s activities strengthen the leadership potential of the scientific school, build a positive image of the academic community, increase the competitiveness of graduates, promote the expansion of external academic networks, and ensure the sustainable positioning of the school within the educational and scientific space.

Considering the role of the pedagogical workshop of Associate Professor Oksana Bolsha “Culture of education quality”, it can be stated that it is aimed at strengthening the institution through the formation of an internal quality assurance system for educational and scientific activities as a strategic resource for educational modernization, strengthening intellectual capital, and enhancing the competitiveness of the scientific school. At the same time, the workshop of Inna Ishchenko “Creativity workshop: development of professional thinking” is based on the idea of developing creative professional thinking as an integrated characteristic of a modern specialist, combining the ability to generate new ideas, analytical-synthetic information processing, flexibility of intellectual behavior, and readiness for innovative activity. It is focused on forming the innovative and creative potential of learners, ensuring a qualitative expansion of the school’s research and educational space.

Table 2 presents pedagogical workshops as components of the scientific school development model, summarizing their contribution to the development of the school’s intellectual, social, and innovation capital.

As shown in Table 2, the workshops do not operate in isolation; rather, they are interconnected through joint projects, publication activity, and educational programs. It should be emphasized that this integrated approach enables the development of the school as a unified intellectual and strategic organism. Consequently, the strategic effect lies in ensuring the reproduction of intellectual potential, modernization of education, and enhancement of academic competitiveness and the reputation of the scientific school.

The core of the model is constituted by the scientific and methodological leadership of Professor Maryna Grynova’s school, represented by her pedagogical workshop “Self-regulation of managerial activity”, which is strengthened by the research directions of the pedagogical workshops of the department’s scholars aimed at developing professional culture and axiological foundations of pedagogical education, innovative methodology of scientific inquiry, resource-oriented and digital learning environments, student-centered professional training, leadership and image-building potential of specialists, culture of educational quality, creative pedagogy, and professional thinking.

Within the development of Professor Maryna Grynova’s scientific pedagogical school, the sphere of intellectual property plays a significant systemic and innovative role. In this context, this direction is represented by the Intellectual-workshop “STEMIP” (Science, Technology, Engineering, Mathematics, Intellectual Property), led by Ukrainian patent attorney Sergiy Shkolyar. This workshop ensures the integration of scientific-pedagogical research with the field of intellectual property and technological innovation. The STEMIP intellectual-workshop forms a new interdisciplinary dimension of the school’s development through the combination of pedagogical science, STEM education, technological management, and the system of intellectual property protection. This contributes to the transformation of pedagogical research into technologically oriented innovative products protected by intellectual property rights. The main impact of the workshop lies in creating mechanisms for generating scientific and technological outcomes and forming the school’s innovation capital. At the same time, the Intellectual-workshop promotes patent-oriented thinking among researchers, develops a culture of protecting scientific developments, ensures legal support for innovative pedagogical and technical products, and stimulates the commercialization of research results (Shkolyar, 2015; Shkolyar, 2021) Thus, the scientific school acquires tools for transforming research into protected intellectual assets.

The development of STEMIP-oriented pedagogy is coordinated with other structural units of the university and integrates digital educational technologies, engineering and mathematical logic of learning, problem-oriented

thinking, and project-based activities of learners. At the same time, in order to strengthen the research culture of the school, the workshop fosters a culture of academic integrity, standards for documenting intellectual outputs, skills in preparing applications for intellectual property rights, and methodologies for protecting scientific developments. This improves the quality of scientific publications and strengthens the reputational capital of the school, as discussed during meetings and interactive consulting seminars on the creation and protection of intellectual property objects.

**Table 2.**

**Pedagogical workshops in the scientific school development model**

<b>Pedagogical workshop</b>	<b>Main role</b>	<b>Impact on the school</b>	<b>Key competencies of learners</b>
Zhadanova-Nedilko O. G. "Communicative culture of the master's student in educational sciences"	Formation of academic communicative culture	Strengthens the social and cultural capital of the school; integrates students into academic discussions	Academic writing, public speaking, research reflection
Tkachenko A.V. "Scientific inquiry and pedagogical innovation"	Development of research and innovation potential	Enhances methodological and innovation capital; stimulates grant and publication activity	Scientific inquiry, experimental activity, innovative thinking
Kononets N.V. "Models of resource-oriented learning"	Integration of educational resources and digital technologies	Forms technological and resource capital; modernizes educational trajectories	Digital resource management, educational environment design, distance learning
Pivovar N.M. "Student-centered approach in professional training"	Humanistic modernization of educational programs	Strengthens human capital; develops students' agency	Self-organization, individualized learning pathways, teamwork
Babenko I.V. "Professional training of specialists: leadership and image-based approach"	Formation of leadership and image potential	Enhances reputational and strategic capital of the school	Leadership competencies, public communication, professional self-positioning
Bolsha O.V. "Culture of education quality"	Strengthening internal quality assurance system	Develops skills for analyzing educational quality processes	Educational quality monitoring, internal quality assurance tools
Ishchenko I.S. "Creativity workshop: development of professional thinking"	Stimulation of creative and innovative thinking	Develops innovation and creative capital; integrates creativity into scientific practice	Creativity, systems thinking, authorial educational products

Below are examples of industrial property and copyright-protected objects, invented and authored by M. V. Grynova. A characteristic feature of most of them is their connection with innovations whose application is highly relevant for the Poltava territorial community. The scientific outputs of Professor M. V. Grynova's school include a significant number of registered intellectual property objects in the field of industrial property and copyright. These developments are characterized by a strong interdisciplinary orientation and practical relevance for educational, environmental, medical, and community development contexts.

*Patent and utility model examples*

Shkolyar S. P., Grynova M. V., Arkanova A. A., and Homlia L. M. developed a utility model entitled "Method for decorative reproduction of the botanical natural monument 'Kochubei Oaks'" (Ukrainian patent for utility model No. 109845; filed 16.03.2016; published 12.09.2016; IPC A01N3/00). The invention is aimed at creating a method for decorative reproduction of a protected natural object in order to promote environmental awareness and ensure ecological preservation. The method involves staged surface preparation, application of cement layers of different consistencies, and the use of a silicone mold to simulate natural bark texture.

Gubar O. H., Grynova M. V., Gubar I. V., and Stepanenko S. V. created a utility model "Device for self-massage of longitudinal tongue muscles" (Patent No. 160915; filed 09.12.2024; published 22.10.2025; IPC A61H21/00), intended for speech therapy rehabilitation and restoration of articulatory motor function.

Grynova M. V., Yalanska S. P., and Stepanenko S. V. developed a "Portable laboratory for psychological and psychophysiological rehabilitation" (Patent No. 159867; filed 16.09.2024; published 16.07.2025; IPC A61M21/00, A45C9/00), designed as a mobile system for psychological support and rehabilitation procedures.

Grynova M. V. and Shkolyar S. P. also authored a utility model "Method for decorative reproduction of aged trees" (Patent No. 158168; filed 01.01.2024; published 08.01.2025; IPC A01G17/18), which enables ecological preservation combined with aesthetic modeling of aged trees.

Another related development includes a device for tongue muscle self-massage with spring-like elements

(Patent No. 161547; filed 09.12.2024; published 17.12.2025; IPC A61H21/00, A61H23/00), aimed at improving speech rehabilitation procedures.

*Copyright-protected educational and scientific works*

Grynova M. V. authored the educational manual “Self-Regulation” (Copyright Certificate No. 42031, 2012), which systematizes theoretical and practical aspects of self-regulation as a pedagogical and psychological phenomenon. Together with Yalanska S. P., she co-authored “Development of Students’ Creativity in Biology: The Didactoservice System” (Certificate No. 77890, 2018), which presents approaches to fostering creativity in biology education. In collaboration with Krashchenko Yu. P., she produced “Methods of Self-Knowledge of the Future Leader” (Certificate No. 53214, 2014), which systematizes diagnostic tools for leadership development.

Other works include studies on nutrition and cognitive performance, emotional intelligence development in students, and community-based educational projects focused on green tourism, dendrological parks, and environmental education. Shkolyar S. P., Grynova M. V., and collaborators also developed applied educational and socio-ecological projects, including transportation regulation schemes, community engagement models for local governments, and environmental restoration strategies for cultural heritage sites. A significant collective output is the dictionary “Terminology of the Course ‘Fundamentals of Pedagogical Mastery’” (Certificate No. 111583, 2022), which systematizes key pedagogical terminology for higher education training. Additionally, a scientific-popular publication on the ecological and cultural value of the V. G. Korolenko estate integrates biographical, environmental, and cultural dimensions, reflecting the interdisciplinary nature of the school’s research activities.

Overall, the intellectual property portfolio of Professor M. V. Grynova’s scientific school demonstrates a strong integration of pedagogical science, environmental studies, rehabilitation technologies, community development, and STEM-oriented innovation. These outputs contribute to both the scientific reputation of the school and its practical impact on regional development, particularly within the Poltava community context.

Taking into account the presented research results, it can be stated that the activity of the scientific school is characterized by a systemic integration of intellectual property into the development model of the educational and scientific environment of Poltava V. G. Korolenko National Pedagogical University. Undoubtedly, the motivational function of intellectual property rights objects acts as an important managerial and pedagogical tool for stimulating the scientific activity of student youth. The created intellectual property objects, including authorial excursion routes, social projects, environmental education technologies, and methodological innovations, form the innovation capital of the scientific school and ensure the practical orientation of pedagogical research. The implementation of systematic work aimed at involving students in research and experimental design activities over the past decade has contributed to an increase in the number of registered copyright objects, which confirms the effectiveness of the motivational model of intellectual activity (Shkolyar, & Grynova, 2024a; Shkolyar, & Grynova, 2024b).

The activities of STEMIP in the field of intellectual property create conditions for the integration of education, science, and technological entrepreneurship; the development of innovative marketing of educational products; the enhancement of the competitiveness of the school’s research outcomes; and participation in national and international innovation projects. This generates a positive socio-economic effect. Regarding the strategic significance for the scientific school, the Intellectual-workshop STEMIP forms a technology-oriented vector of the school’s development, ensures the protection of intellectual results of pedagogical research, creates the foundation for STEM-integrated pedagogical innovation, and strengthens the international academic competitiveness of the school. Thus, the Intellectual Workshop STEMIP of the Patent Attorney of Ukraine Sergiy Shkolyar acts as an important driver of the innovative transformation of the scientific pedagogical school of Professor Maryna Gryniova. It ensures the integration of pedagogical science with technological development, forms a culture of intellectual property management, and promotes the creation, protection, commercialization, and technology transfer of protected scientific and educational innovations.

Special attention should be paid to the key conceptual foundations of the Pedagogical Workshop of Professor Maryna Gryniova, “Self-Regulation of Managerial Activity,” as a system-forming center of the scientific school. Professor Gryniova’s pedagogical workshop is a methodological core of the scientific school, operating at Poltava V. G. Korolenko National Pedagogical University and recognized by the international scientific pedagogical community. Its concept is based on the idea of self-regulation as an integrative professional capacity of the individual, encompassing goal setting and strategic planning, reflective analysis of activity, emotional-volitional stability, adaptation to changes in the educational environment, decision-making under uncertainty, and strategic development of the educational ecosystem at different levels of its functioning. In Professor Gryniova’s established pedagogical framework, self-regulation is interpreted not only as a psychological phenomenon but also as a managerial and pedagogical technology that ensures the sustainability of an educational organization’s development.

A key methodological role within the structure of the scientific school is assigned to this workshop, as it performs a system-forming function by establishing a common value platform for the school’s activities, ensuring a unified methodology of research work, integrating psychological, managerial, and pedagogical approaches, and guiding the activities of other workshops within the department, the university, and beyond toward reflective management of development. In fact, “Self-Regulation of Managerial Activity” functions as a metaconcept that integrates all directions of the school into a unified intellectual system.

As research indicates, long-term creative collaboration produces a positive effect on the integration of other pedagogical workshops. For instance, integration with the workshop on communicative culture ensures control and awareness of communicative behavior, which enhances the outcomes of the direction developed by Olena Zhdanova-Nedilko, since self-regulation serves as a psychological foundation of effective academic communication.

Integration with resource-oriented learning also yields significant positive results. In combination with the research of Nataliia Kononets, self-regulation forms a model of conscious utilization of educational resources, whereby an education manager capable of self-regulation effectively organizes institutional resource flows within an educational institution.

Cooperation with the direction of Andrii Tkachenko demonstrates that innovative activity is impossible without a high level of self-control, reflection, and strategic thinking. Integration with student-centered and leadership-oriented approaches ensures productive interaction with the workshops of Nina Pivovar, Iryna Babenko, and Oksana Bolsha. In this context, self-regulation becomes the foundation for leadership behavior, quality culture, and responsible management of the educational process. This is logical, as leadership without self-regulation is not sustainable, and educational quality without self-control is not systemic. Importantly, in combination with the direction developed by Inna Ishchenko, self-regulation ensures a balance between creativity and structured thinking, where creativity becomes productive only under conditions of internal discipline and reflection.

In interaction with the Intellectual Workshop “STEMIP” of Patent Attorney of Ukraine Sergiy Shkolyar, self-regulation functions as a cognitive foundation of innovative activity. It ensures the ability to transform a scientific idea into a patentable solution, supports systematic documentation of intellectual outputs, and motivates legal protection of innovations. Thus, Professor Maryna Gryniiova’s workshop performs the role of an internal psychological mechanism for the intellectualization of scientific activity.

It is also important to highlight its organizational and institutional impact. The “Self-Regulation of Managerial Activity” workshop contributes to the formation of the scientific school’s кадровий резерв (talent pipeline), supports the training of PhD candidates and early-career researchers (with Professor Maryna Gryniiova having supervised more than 100 dissertation projects), serves as a platform for methodological coordination of other workshops, and fosters an atmosphere of academic reflection. It defines the rhythm of the school’s development and determines its strategic trajectory.

One should also emphasize its system-forming function within the model of the scientific school. According to the author, within the overall developmental model, it performs three key functions: methodological—forming a unified scientific paradigm; integrative - uniting all directions into a coherent research system; and motivational-value-based - ensuring an internal culture of scientific responsibility. Therefore, Professor Maryna Gryniiova’s pedagogical workshop is not merely one of the directions but rather the core that structures the entire activity of the scientific school. Consequently, the pedagogical workshop “Self-Regulation of Managerial Activity” performs a key system-forming role in the development of the scientific school. It ensures methodological integrity, psychological stability, and innovative orientation of all other workshops within the department, as well as provides a foundation for collaboration with the intellectual property intellectual workshop. Thus, self-regulation emerges as a strategic mechanism for integrating pedagogical science, educational management, and the intellectual-innovative activity of the university.

**Conclusions.** The analysis of the activities of Professor M. V. Gryniiova’s scientific school makes it possible to identify several important outcomes, including the formation of a sustainable research tradition, the training of a new generation of researchers, the implementation of innovations in pedagogical practice, and the strengthening of the school’s institutional, regional, national, and international impact. The collaboration of intellectual resources contributes to the improvement of educational program quality, the growth of scientometric indicators, and the expansion of international cooperation. Such collaboration serves as a system-forming factor in the development of the scientific pedagogical school, while the integration of human, social, organizational, and innovation capital ensures a synergistic effect in scientific activity.

Thus, Professor Maryna V. Gryniiova’s scientific school demonstrates an effective model of academic leadership and knowledge management. Further research should focus on the quantitative assessment of the intellectual capital of scientific schools and the development of indicators for their strategic development.

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#### ШКОЛЯР С.

Полтавський національний педагогічний університет імені В. Г. Короленка, Україна

#### КОЛАБОРАЦІЯ ІНТЕЛЕКТУАЛЬНИХ РЕСУРСІВ НАУКОВО-ПЕДАГОГІЧНОЇ ШКОЛИ

У статті здійснено комплексний теоретико-методологічний та прикладний аналіз феномену колаборації інтелектуальних ресурсів у межах наукової педагогічної школи професора Марини Вікторівни Гриньової. Інтелектуальні ресурси інтерпретовано як інтегровану систему, що охоплює людський, соціальний, організаційний та інноваційний капітал, взаємодія яких забезпечує сталий розвиток освітньо-наукового середовища. На основі кейс-аналізу діяльності педагогічних майстерень кафедри педагогічної майстерності та менеджменту імені І. А. Зязюна Полтавського національного педагогічного університету імені В. Г. Короленка доведено, що колаборація інтелектуальних ресурсів функціонує як багаторівнева система, що охоплює внутрішній, інституційний, міжінституційний, регіональний, національний та міжнародний рівні. Обґрунтовано роль педагогічних майстерень як функціональних осередків формування інтелектуального капіталу, що забезпечують розвиток дослідницького потенціалу, комунікативної культури, інноваційного мислення та академічного лідерства здобувачів освіти. Особливу увагу приділено системоутворюючій ролі педагогічної майстерні «Саморегуляція діяльності менеджера», яка виступає методологічним ядром наукової школи та забезпечує інтеграцію її структурних компонентів. Визначено значення інтелект-майстерні STEMIP як

інноваційного механізму інтеграції освіти, науки та сфери інтелектуальної власності, що сприяє трансформації результатів досліджень у захищені інтелектуальні активи. Доведено, що синергія інтелектуальних ресурсів забезпечує підвищення якості освітніх програм, зростання наукової продуктивності, розвиток інноваційного потенціалу та зміцнення конкурентоспроможності наукової школи в національному й міжнародному освітньо-науковому просторі.

**Ключові слова:** наукова школа, інтелектуальні ресурси, колаборація, педагогічна наука, академічне лідерство, інноваційний розвиток, інтелектуальна власність.

Стаття надійшла до редакції 20.03.2026

Стаття прийнята 16.04.2026

Статтю опубліковано 15.05.2026