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ПРАКТИКИ РОЗВИТКУ НАВИЧОК КОМАНДНОЇ РОБОТИ В ГРАНТРАЙТИНГУ ПРИ ПІДГОТОВЦІ ФАХІВЦІВ ГАЛУЗІ ОСВІТИ

Анотація. У статті узагальнено наукові підходи до осмислення грантрайтингу як засобу розвитку навичок командної роботи при підготовці фахівців галузі освіти. Актуальність дослідження зумовлена зростанням ролі командної взаємодії у професійній діяльності сучасного освітянина та недостатнім теоретичним узагальненням педагогічних практик, які дозволяють цілеспрямовано формувати такі навички через роботу над грантовими заявками. Метою статті є узагальнення практик розвитку навичок командної роботи в грантрайтингу та виявлення педагогічних рішень, що забезпечують перехід від формальної групової діяльності до змістовної командної взаємодії у процесі створення грантової заявки. Методологічну основу дослідження становлять системний, компетентнісний і діяльнісний підходи. Використано методи теоретичного аналізу наукових джерел, порівняння, узагальнення, інтерпретації, класифікації та типологізації. У результаті встановлено, що грантрайтинг має значний педагогічний потенціал для розвитку навичок командної роботи, оскільки поєднує спільне проблематизування, узгодження мети, розподіл ролей, координацію рішень, колаборативне письмо, внутрішнє рецензування, рефлексію та відповідальність за спільний результат. Виявлено, що найбільш продуктивними є практики спільного концептуального опрацювання проблеми, функціонального розподілу відповідальності, взаємного рецензування, спільної регуляції процесу роботи та командної рефлексії. Обґрунтовано, що грантрайтинг доцільно розглядати не лише як прикладну навичку підготовки проектної документації, а як педагогічно організовану діяльність, у якій інтегруються комунікативний, когнітивний, організаційний та етичний виміри командної взаємодії. Наголошено, що розвивальний ефект грантрайтингу залежить від спеціальної педагогічної організації й не виникає автоматично внаслідок самої групової роботи. До обмежень дослідження віднесено його узагальнювальний характер, відсутність власної емпіричної перевірки та опору частково на праці із суміжних галузей. Перспективи подальших досліджень пов'язані з розробленням і апробацією моделей навчального грантрайтингу, орієнтованих на розвиток командної роботи у здобувачів освіти.

Ключові слова: грантрайтинг; командна робота; навички командної роботи; підготовка фахівців галузі освіти; soft skills; колаборативне письмо; проектне навчання; взаємне рецензування; спільна відповідальність; професійна підготовка.

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PRACTICES FOR DEVELOPING TEAMWORK SKILLS THROUGH GRANT WRITING IN THE PREPARATION OF EDUCATION PROFESSIONALS

Abstract. The article generalizes scholarly approaches to understanding grant writing as a means of developing teamwork skills among education professionals. The relevance of the study is determined by the growing role of teamwork in today's educators' professional activity and by the insufficient theoretical generalization of pedagogical practices that enable the purposeful development of these skills through work on grant proposals. The aim of the article is to generalize practices for developing teamwork skills through grant writing and to identify pedagogical solutions that ensure a transition from formal group activity to meaningful teamwork during the preparation of a grant proposal. The study's methodological framework combines systemic, competency-based, and activity-based approaches. The methods used include theoretical analysis of scholarly sources, comparison, generalization, interpretation, classification, and typologization. The study shows that grant writing has considerable pedagogical potential for developing teamwork skills because it integrates shared problem framing, goal alignment, role distribution, coordinated decision-making, collaborative writing, internal review, reflection, and responsibility for the common result. The most productive practices were found to be joint conceptual work on the problem, functional distribution of responsibility, peer review, shared regulation of the work process, and team reflection. It is argued that grant writing should be understood not only as an applied skill related to project documentation but also as a pedagogically organized activity in which communicative, cognitive, organizational, and ethical dimensions of teamwork are integrated. The article emphasizes that the developmental effect of grant writing depends on deliberate pedagogical organization and does not arise automatically from group work itself. The limitations of the study include its generalizability, the lack of original empirical verification, and its partial reliance on research from adjacent fields. Prospects for further research include developing and testing instructional models of grant writing to foster teamwork skills among students.

Keywords: grant writing; teamwork; teamwork skills; preparation of education professionals; soft skills; collaborative writing; project-based learning; peer review; shared responsibility; professional preparation.

Problem Statement. In the preparation of education professionals, increasing importance is placed not only on disciplinary knowledge and methodological training but also on teamwork skills, without which participation in collaborative educational, research, and project-based initiatives becomes difficult. Contemporary professional activity in education requires constant interaction with colleagues, administrators, partners, donors, and experts, as well as shared planning, coordinated decisions, and collective responsibility. In the scholarly literature, teamwork is consistently treated as one of the core soft skills alongside communication, leadership, decision-making, and problem-solving, and its development is recognized as an important task of higher education [8; 11; 18].

At the same time, the development of teamwork readiness in higher education often remains fragmented. The existence of group assignments does not automatically ensure the purposeful formation of teamwork skills, since joint work may be reduced to a formal division of tasks without genuine coordination, mutual support, shared decision-making, or distributed responsibility. Research shows that effective teamwork develops not simply by placing students in groups but through deliberately organized pedagogical practices based on shared goals, role interdependence, feedback, reflection, and accountability [2; 7; 19].

In this regard, grant writing deserves particular attention. As an educational and professional activity, it combines analytical, communicative, projective, organizational, and reflective dimensions. Work on a grant proposal requires a shared understanding of the problem, joint formulation of goals, role distribution, coordination of actions, collaborative drafting, internal review, and responsibility for the final result. For this reason, grant writing may be interpreted not only as an applied skill related to project documentation but also as a pedagogically meaningful means of developing teamwork skills. Studies on team-based learning, project-based models, collaborative writing, and peer feedback confirm that such formats improve communication, collaboration, engagement, responsibility, and the quality of the shared product [3; 9; 21].

This issue is especially significant in the preparation of education professionals, who increasingly work in settings that require collaborative projects, partnership-based initiatives, and project-oriented problem solving. Under such conditions, grant writing performs a dual function: it prepares students for professional activity related to designing and resourcing educational change, and it creates a natural environment for the development of teamwork, since the quality of a grant proposal depends directly on coordinated action, effective communication, and work toward a common result [12; 13; 17].

Despite this potential, grant writing has not yet been sufficiently theorized as a means of developing teamwork skills in the preparation of education professionals. Existing studies address either general approaches to soft skills development, separate models of team-based or project-based learning, or issues of academic and research writing. However, practices for purposefully developing teamwork skills, specifically through grant writing, have not yet been systematically generalized. This gap defines the research problem addressed in the present study.

Review of Recent Studies. Research on the development of teamwork skills in the preparation of education professionals draws on several related fields, including studies of soft skills in higher education, team-based and project-based learning, collaborative writing, peer feedback, and shared metacognition. Together, these strands provide a basis for understanding grant writing as a potentially effective means of developing teamwork.

A common finding in recent scholarship is that teamwork is one of the key soft skills expected of higher education graduates. It is regularly discussed alongside communication, leadership, decision-making, and problem-solving, and is increasingly treated as a core outcome of professional preparation rather than as an additional advantage [8; 11]. This is especially relevant to education, where future professionals are expected to work collaboratively in project-based, partnership-oriented, and interdisciplinary environments.

A substantial body of work examines team-based and project-based learning as structured pedagogical models. These studies show that teamwork develops most effectively not through group work alone, but through clearly organized forms of collaboration that combine shared goals, role distribution, accountability, and feedback [2; 7]. Research on project-based learning reaches similar conclusions, demonstrating its positive effect on collaboration, responsibility, communication, and self-organization [5; 9]. These findings are directly relevant to grant writing, since developing a grant proposal is inherently project-based and depends on coordinated collective effort.

Another important research area concerns collaborative writing. Studies show that joint text production can improve not only writing quality but also communication, critical thinking, and the ability to negotiate meaning and integrate different perspectives [3; 6; 10]. This is particularly important for grant writing, as a grant proposal is a complex, collective text that requires logical coherence among the problem statement, activities, expected outcomes, and budget.

Peer review and feedback are also highly relevant. Research indicates that feedback improves text quality, strengthens engagement, and promotes critical thinking, while peer feedback in particular contributes to both cognitive and social development [16; 17; 21]. In the case of grant writing, internal review of proposal

drafts can therefore be seen not only as a way of improving the final document but also as a mechanism for developing teamwork, responsibility, and reflective interaction.

A further line of inquiry highlights the importance of shared regulation and common understanding within teams. Studies on task cohesion and shared metacognition show that strong team performance depends on more than active participation. It also requires shared perceptions of goals, coordinated decision-making, and the ability to monitor and adjust the process collectively [1; 19]. These insights are especially relevant to grant writing, where the quality of the final proposal depends on coherence across all of its parts.

Overall, the reviewed literature suggests that effective teamwork develops through structured practices involving shared goals, role interdependence, collaborative writing, feedback, reflection, and responsibility. Many of these features are naturally present in grant writing. At the same time, the literature still lacks a systematic generalization of grant-writing practices, specifically as a means of developing teamwork skills among education professionals. This gap provides the rationale for the present study.

Aim and Methods. The aim of the article is to generalize practices for developing teamwork skills through grant writing in the preparation of education professionals and to identify pedagogical solutions that support the transition from formal group activity to meaningful teamwork during the development of a grant proposal.

The study is generalizing in nature and is based on the analysis of scholarly sources addressing soft skills development, team-based learning, project-based education, collaborative writing, responsibility in group work, and the teaching of grant writing. Particular attention was paid to studies that reveal not only the general value of teamwork in higher education but also specific pedagogical mechanisms through which it can be developed in the course of producing a complex shared text or project product.

To achieve the stated aim, a set of complementary methods was employed. A theoretical analysis of the scholarly literature was used to determine the degree of problem elaboration, identify the main approaches to team development, and define the range of pedagogical practices most relevant to the topic. A comparative analysis enabled linking findings across different educational models, including team-based learning, project-based learning, collaborative writing, the flipped classroom, peer feedback, and formative assessment. Generalization was used to identify recurring pedagogical solutions that showed a positive influence on teamwork development across different studies. Interpretive analysis allowed findings from the broader fields of team learning and collaborative writing to be transferred into the domain of grant writing as a specially organized educational practice. Elements of classification and typologization were also applied to organize the identified practices according to their functions in the development of teamwork skills.

The study emphasizes the analytical synthesis of existing research findings and their reinterpretation in relation to the professional preparation of education specialists. This approach enables moving beyond descriptions of isolated local practices and identifying broader pedagogical patterns that determine the value of grant writing as a means of developing teamwork skills.

Results. The analysis suggests that, in the preparation of education professionals, grant writing can be treated as a pedagogically productive space for the development of teamwork skills, provided that it is organized not as individual writing followed by a formal compilation of separate parts, but as a collaborative process based on a shared understanding of the problem, agreed goals, role distribution, coordinated decisions, internal review, and collective responsibility for the final result. Under these conditions, grant writing functions not only as a means of producing a project proposal but also as a complex learning practice that integrates analytical thinking, communication, collaboration, self-organization, and reflection.

The reviewed literature indicates that teamwork develops most effectively when joint activity is structured around a clear goal, internal interdependence, and a meaningful shared product. These features are fully characteristic of a grant proposal. Unlike many conventional educational tasks, a grant application cannot be produced effectively by mechanically aggregating individually completed fragments. Its coherence depends on how consistently the team defines the problem, formulates the goal, aligns expected outcomes with activities and resources, and agrees on evaluation criteria. In this sense, the very logic of grant proposal development encourages a move from simple cooperation to more mature forms of teamwork.

The first important group of practices concerns joint problem framing and conceptual alignment. Research on team learning, project-based activities, and collaborative writing shows that the quality of teamwork depends less on the isolated activities of individual participants than on a shared understanding of the task and a common view of the expected outcome [2; 19]. In grant writing, this means that teamwork should begin not with the division of proposal sections but with a collective discussion of the problem, target audience, theory of change, expected impact, and criteria of success. At this stage, the team develops a shared intellectual framework without which later role distribution remains superficial.

A second group of practices concerns role organization and the functional distribution of responsibilities. Across the reviewed studies, effective teamwork is described not as the elimination of individual contribution but as its deliberate integration into a common structure of activity [7; 9]. This is particularly relevant to grant writing because proposal development includes multiple task types: analytical,

textual, organizational, financial, communicative, and editorial. Pedagogically, this allows not only assigning roles but also teaching learners to see their own role as part of a larger process. At the same time, the analysis suggests that the most productive model is not rigid role fixation but a more flexible arrangement that allows mutual support, corrective action, and partial interchangeability when necessary to achieve the shared result.

A third group of practices concerns collaborative writing itself. Studies in this field show that joint text production contributes not only to the improvement of writing skills but also to communication, critical thinking, sensitivity to argumentation, and the ability to negotiate meaning [3; 6; 10]. This is especially important for grant writing because a proposal is a dense collective text whose quality depends on the internal coherence of its parts. For this reason, the most pedagogically valuable model is not sequential individual drafting of separate sections but collaborative editing, collective discussion of formulations, refinement of arguments, and ongoing checking of the proposal's internal logic. In such work, students learn not merely to express their own ideas but also to integrate them into a shared text.

A fourth group of practices is linked to peer review and formative feedback. The reviewed studies show that feedback has a multidimensional positive effect: it improves text quality, stimulates critical thinking, increases engagement, and strengthens evaluative judgment [16; 17; 21]. In grant writing, internal review of proposal drafts may therefore be considered one of the most effective practices for developing teamwork, since it requires attention to content, respect for others' contributions, justified comments, and an orientation toward improving the collective result. Such work develops not only the ability to evaluate texts but also a culture of professional interaction in which critique serves a constructive rather than destructive function.

A fifth group of practices relates to shared regulation and team reflection. Research on socially shared regulation of learning shows that strong teamwork is sustained not only by role distribution but also by the team's ability to monitor the process, revise strategies, coordinate interim decisions, and reflect on mistakes together [1; 20]. In grant writing, these practices appear in interim team discussions, the refinement of project logic, the collective identification of weaknesses in the proposal, and a reflective review after the work is completed. Such processes foster not situational but conscious teamwork, in which the group not only performs tasks but also reflects on how it works.

A sixth group of practices concerns shared responsibility. The analysis shows that current scholarship increasingly emphasizes the connections among teamwork, the ethics of interaction, and responsibility for the common result [4; 9; 13]. In grant writing, responsibility acquires a concrete operational form because the passivity, inconsistency, or error of one participant may affect the quality of the entire proposal. This creates a pedagogically meaningful situation in which responsibility ceases to be an abstract moral requirement and becomes an experienced norm of collective work. Under appropriate conditions, such an environment supports a shift from external discipline to an internally accepted obligation to work for the common result, meet deadlines, support teammates, and take responsibility for the quality of one's contribution.

A seventh group of practices involves the use of digital tools that support collaborative activity. Studies of collaborative writing and technology-enhanced feedback show that digital platforms for joint editing, commenting, change tracking, and asynchronous interaction can strengthen both writing quality and team coordination [14; 15; 21]. In grant writing, this means that digital environments do more than facilitate the technical preparation of a proposal. They create additional conditions for teamwork by making individual contributions visible, accelerating feedback, enabling simultaneous work on different sections without loss of coherence, and documenting the collaborative writing process. Their pedagogical value, however, depends on whether they are integrated into a deliberately designed interaction model rather than reduced to simple file exchange.

Overall, the identified practices can be grouped around several interrelated functions. Some support the semantic unity of the shared activity through the collective definition of the problem, goals, and project logic. Others sustain the procedural organization of teamwork through role distribution, action coordination, and collaborative writing management. A further set of practices serves the reflective and evaluative dimension of teamwork through peer review, collective identification of weaknesses, and discussion of ways to improve the proposal. Finally, an important group supports the ethical dimension of teamwork through shared accountability, professional respect, and orientation toward the collective result. It is precisely the combination of these functions that makes grant writing a particularly promising means of developing teamwork skills among education professionals.

The findings also suggest that the pedagogical value of grant writing lies not only in developing the applied skill of proposal writing but in modeling real professional situations of collaboration. In this process, future educators learn not simply to write a text but to negotiate positions, make collective decisions, revise their own actions in relation to a common goal, work with feedback, and take responsibility for the quality of the shared result. For this reason, grant writing can be understood as a pedagogically rich form of professional preparation in which teamwork develops not declaratively but through participation in complex collective activity.

Taken together, the results indicate that grant writing has considerable potential for developing teamwork skills in the preparation of education professionals, but this potential is realized only under

conditions of deliberate pedagogical organization. When grant proposal development is reduced to the fragmented division of writing tasks, it reproduces only the external appearance of collaboration. When it is built around shared problem framing, role organization, collaborative writing, peer review, shared regulation, and distributed responsibility, grant writing becomes an effective means of developing meaningful teamwork as an important component of professional preparation.

Conclusions. The study shows that, in the preparation of education professionals, grant writing can be understood not only as an applied activity related to proposal development but also as a pedagogically organized means of developing teamwork skills. Its value lies in the fact that preparing a grant proposal requires shared problem framing, coordinated decisions, role distribution, collaborative writing, internal review, and responsibility for a common result. In this way, grant-writing models constitute forms of professional interaction that are increasingly important in contemporary education.

The literature review indicates that effective teamwork develops not through group activity alone but through pedagogical practices that foster real interdependence and coherence in shared work. The most significant of these practices are joint conceptual work on the problem, functional role distribution, collaborative writing, peer review, shared regulation of the process, team reflection, and distributed responsibility. In grant writing, the combination of these practices enables a shift from formal cooperation to meaningful teamwork.

The findings also suggest that grant writing is valuable because it integrates cognitive, communicative, organizational, and ethical dimensions of collective activity. It requires a shared understanding of project logic, sustained communication, coordination of roles and deadlines, and responsibility for the quality of the final product. This allows grant writing to be interpreted more broadly as a form of professional preparation that combines teamwork development with communication, project thinking, reflection, and shared responsibility.

At the same time, the study has limitations. It is generalizing in nature and is based on the analytical synthesis of scholarly sources rather than on original empirical data. In addition, part of the literature comes from adjacent fields, which broadens the analytical perspective but requires caution in transferring conclusions directly to the preparation of education professionals. Further research should therefore focus on the design and testing of instructional models of grant writing aimed at strengthening students' teamwork skills.

Conflict of Interest. The authors confirm the absence of financial, personal, or other interests that could be considered potential conflicts of interest regarding the publication of this article.

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