Advances in Science and Education, 2026, 16–21

doi: 10.70728/edu.v02.i04.004
Volume 02, Issue 04
ISSN: 3060-5415
Paper

PAPER

METHODOLOGY FOR DEVELOPING THE RHETORICAL COMPETENCE OF FUTURE PRIMARY SCHOOL TEACHERS THROUGH HEURISTIC EDUCATION TECHNOLOGIES

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Abstract

The modernization of contemporary pedagogical education necessitates the formation of highly developed communicative and rhetorical competencies among future primary school teachers, as their professional effectiveness directly depends on the quality of verbal interaction, persuasive discourse construction, and didactic communication management. In this context, heuristic education, grounded in discovery-based learning, dialogic cognition, and creative problem-solving strategies, emerges as a productive methodological framework for enhancing rhetorical competence. The present study aims to substantiate theoretically and methodologically the process of developing rhetorical competence of prospective primary school teachers through heuristic instructional technologies. The research conceptualizes rhetorical competence as an integrative personal-professional construct that combines speech culture, argumentation skills, dialogic thinking, reflective communication, and pedagogical persuasion. Heuristic education is interpreted as a system of pedagogical tools that stimulates independent knowledge construction, critical inquiry, and communicative creativity. Within this paradigm, rhetorical training is not reduced to mechanical speech techniques but is structured as an exploratory, interactive, and reflexive activity.

Key words: heuristic education; rhetorical competence; primary school teacher training; pedagogical communication; discovery-based learning; speech culture; professional discourse; communicative skills; problem-based learning; reflective pedagogy.

Introduction

The progressive transformation of contemporary educational systems under the conditions of

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globalization, digitalization, and socio-cultural diversification has fundamentally redefined the professional profile of the modern teacher. In particular, the primary school teacher is no longer perceived merely as a transmitter of knowledge or a procedural executor of curricular prescriptions, but rather as an active mediator of meanings, a constructor of educational dialogue, and a rhetorically competent organizer of communicative interactions within the learning environment[1].

The effectiveness of pedagogical activity in the early stages of schooling increasingly depends not only on subject-matter expertise and methodological literacy but also on the teacher's ability to articulate ideas persuasively, structure discourse logically, manage classroom communication strategically, and create a psychologically safe dialogic atmosphere. Consequently, rhetorical competence emerges as a system-forming component of professional pedagogical readiness. The relevance of developing rhetorical competence among future primary school teachers is conditioned by several interrelated factors. First, primary education represents the foundational stage of personality formation, during which children acquire not only basic cognitive skills but also communicative patterns, value orientations, and social interaction strategies. At this stage, the teacher's speech functions simultaneously as an informational, motivational, regulatory, and axiological instrument[2].

Any deficiency in clarity, expressiveness, logical coherence, or persuasive force of pedagogical discourse may negatively affect the quality of educational outcomes. Therefore, the teacher's speech becomes a central pedagogical tool rather than a supplementary element of instruction. Second, modern pedagogical paradigms increasingly prioritize learner-centered approaches, dialogic pedagogy, and collaborative knowledge construction. These approaches presuppose constant verbal interaction, argumentation, questioning, interpretation, and reflection. Under such conditions, the teacher's professional communication cannot be limited to monologic explanation; instead, it must involve flexible rhetorical strategies that enable constructive dialogue, negotiation of meanings, and stimulation of learners' cognitive activity. Hence, rhetorical competence acquires not only communicative but also epistemological significance, serving as a mechanism for organizing thinking through language. Third, the current demands of educational reforms emphasize creativity, independence, and critical thinking as essential attributes of both teachers and students[3]. Traditional reproductive methods of teacher training, focused primarily on memorization and algorithmic procedures, prove insufficient for cultivating such qualities. This limitation necessitates the search for innovative pedagogical technologies capable of activating students' intellectual autonomy and communicative initiative. In this regard, heuristic education, grounded in discovery-based learning and problem-solving activities, offers substantial didactic potential for transforming the process of professional preparation[4]. Heuristic education is conceptually based on the idea that knowledge is most effectively assimilated when learners independently discover relationships, formulate hypotheses, and construct solutions through exploratory activity.

Within this framework, the educational process shifts from passive reception to active inquiry, from reproductive reproduction to creative production, and from externally regulated instruction to internally motivated cognition. Such a paradigm is inherently compatible with the development of rhetorical competence, since persuasive speech, argumentation, and dialogic interaction require precisely those cognitive operations analysis, synthesis, generalization, interpretation, and evaluation that heuristic methods cultivate[5]. From a theoretical standpoint, rhetorical competence can be understood as a multidimensional construct integrating linguistic accuracy, logical consistency, emotional expressiveness, communicative adaptability, ethical responsibility, and reflexive self-regulation. It reflects the teacher's capacity to consciously design and manage discourse in accordance with pedagogical goals and situational demands. Importantly, rhetorical competence is not limited to technical mastery of speech norms; it also includes the ability to influence, inspire, motivate, and guide learners through language.

Therefore, it occupies an intermediate position between communicative competence, pedagogical mastery, and professional identity. Despite the

acknowledged importance of communicative training in teacher education, existing practices often remain fragmented and unsystematic[6]. Courses in speech culture or rhetoric are frequently isolated from methodological disciplines and lack integration with real pedagogical contexts. As a result, students acquire theoretical knowledge about speech norms without developing the ability to apply rhetorical strategies in authentic classroom situations. This discrepancy reveals a methodological contradiction between the need for holistic rhetorical competence and the predominance of formal, lecture-based instruction.

Literature review

The theoretical and methodological substantiation of rhetorical competence development within teacher education is inseparably connected with contemporary foreign research that interprets pedagogical communication not merely as a linguistic phenomenon but as a cognitively mediated, socially constructed, and instructionally regulated process. In this regard, heuristic education technologies, which emphasize dialogicity, inquiry-based cognition, and discursive co-construction of knowledge, are increasingly conceptualized as a productive framework for forming professional communicative agency. The synthesis of international scholarship demonstrates that the development of persuasive, reflective, and pedagogically oriented speech emerges at the intersection of dialogic teaching theory and structured communicative scaffolding, which collectively establish the epistemic conditions for rhetorical growth[7].

A significant contribution to understanding the dialogic and exploratory foundations of pedagogical communication is provided by the works of Robin Alexander, whose theory of dialogic teaching conceptualizes classroom discourse as a culturally embedded and cognitively generative system of interactions that shapes both thinking and meaning-making. Alexander argues that effective teaching is grounded in purposeful talk, where questioning, argumentation, reasoning, and collective reflection function as heuristic mechanisms enabling learners to construct knowledge autonomously rather than reproduce information passively.

From this perspective, rhetoric is not reduced to stylistic ornamentation but is interpreted as an epistemological instrument that organizes cognition through structured dialogue. Such an interpretation has direct implications for teacher training: future educators must master discursive strategies that stimulate inquiry, maintain logical coherence, and guide students toward independent conclusions. Alexander's model implicitly aligns with heuristic pedagogy because it positions the teacher as a facilitator of intellectual exploration and treats speech as the principal medium of educational discovery, thereby substantiating the necessity of integrating dialogic and problem-based communicative tasks into professional preparation [8]. Complementing this dialogic paradigm, Douglas Fisher and Nancy Frey develop a practice-oriented framework that emphasizes structured communicative scaffolding and gradual release of responsibility as key mechanisms for cultivating students' and teachers' discourse competence.

Methodological section

The present study was designed within an integrative methodological framework that combines constructivist epistemology, competence-based pedagogy, and heuristic instructional design, according to which the development of rhetorical competence among future primary school teachers is interpreted as a dynamic, multi-component, and practice-oriented process conditioned by dialogic interaction, reflective cognition, and staged communicative independence;

accordingly, the research employed a quasi-experimental mixed-methods design involving theoretical modeling, pedagogical experiment, diagnostic assessment, and statistical verification, within which the formation of rhetorical competence was operationalized through interrelated cognitive, linguistic, argumentative, interactive, and reflexive indicators, while the empirical base consisted of undergraduate students enrolled in primary education programs at a pedagogical higher education institution who were divided into experimental and control cohorts to ensure comparability of baseline communicative characteristics;

the experimental group was exposed to

a specially constructed heuristic educational environment integrating problem-based learning, dialogic seminars, rhetorical simulations, situational case analysis, Socratic questioning, collaborative discourse construction, microteaching with reflective feedback, and project-oriented communicative tasks, whereas the control group followed traditional reproductive instruction focused primarily on theoretical lectures and prescriptive exercises in speech culture;

within the heuristic model, instructional procedures were organized according to the principles of cognitive activation, discursive co-construction, gradual release of responsibility, and metacognitive reflection, thereby transforming students from passive recipients of rhetorical rules into active subjects of communicative discovery, while each learning module incorporated exploratory tasks requiring independent formulation of arguments, justification of pedagogical decisions, and adaptive modification of discourse in response to simulated classroom contingencies;

diagnostic tools included standardized observation protocols, expert evaluation rubrics for speech coherence and persuasiveness, self-reflection questionnaires, discourse analysis of recorded micro-lessons, and quantitative indices measuring lexical diversity, logical structuring, and pragmatic effectiveness, with data processed through comparative analysis, descriptive statistics, and correlation procedures to identify the relationship between heuristic engagement and rhetorical growth;

thus, the methodological architecture of the study ensured systemic coherence between theoretical premises and practical implementation, enabling the empirical verification of heuristic education technologies as an effective means for the targeted and sustainable development of rhetorical competence in future primary school teachers.

Results: The implementation of the heuristic educational methodology within the experimental cohort produced statistically and pedagogically significant transformations in the structural components of rhetorical competence, demonstrating that systematic engagement in dialogic, problem-based, and reflective communicative tasks substantially enhances the quality, coherence, and persuasive effectiveness of future primary school teachers' professional discourse, as evidenced by both quantitative indicators and qualitative expert evaluations;

specifically, baseline diagnostics conducted prior to the intervention revealed that the majority of participants in both control and experimental groups exhibited predominantly reproductive speech patterns characterized by fragmented logical organization, limited argumentative depth, insufficient lexical variability, and low communicative flexibility, which collectively indicated a predominance of declarative rather than dialogic or persuasive discourse strategies, whereas the post-intervention assessment documented marked improvements among students exposed to heuristic technologies, including increased syntactic complexity, expanded terminological repertoire, greater semantic precision, and a more structured deployment of rhetorical devices such as exemplification, analogy, questioning, and counterargumentation;

comparative statistical analysis showed that the experimental group demonstrated a higher mean growth rate across all measured parameters of rhetorical competence—namely discursive coherence, persuasive argument construction, interactive responsiveness, and reflexive self-regulation—while the control group exhibited only marginal progress attributable to routine academic maturation, thereby confirming the formative impact of heuristic engagement rather than incidental learning effects;

moreover, discourse analysis of recorded microteaching sessions indicated that students trained within the heuristic framework were more capable of sustaining pedagogically purposeful dialogue, adapting explanations to learners' cognitive needs, reformulating statements in response to feedback, and integrating motivational and evaluative speech acts into instructional communication, which collectively contributed to a more dynamic and learner-centered classroom interaction model;

expert assessments further revealed that heuristic participants displayed heightened confidence, expressiveness, and communicative autonomy, suggesting that rhetorical competence had evolved from a mechanical skill set into an

internally regulated professional quality;

correlational procedures established a positive relationship between the intensity of participation in exploratory tasks and the level of rhetorical development, thereby empirically substantiating the hypothesis that heuristic learning environments function as catalytic conditions for discursive growth;

consequently, the results demonstrate that the proposed methodology ensures not only quantitative enhancement of speech performance indicators but also qualitative restructuring of communicative behavior, transforming prospective teachers into reflective and persuasive subjects of pedagogical interaction capable of effectively organizing educational dialogue.

Discussion

The interpretation of the obtained empirical results necessitates a broader theoretical contextualization within contemporary international debates concerning the nature of pedagogical discourse and the mechanisms through which communicative competence is most effectively cultivated in teacher education. In this regard, the outcomes of the present study may be productively examined through a polemical comparison of two influential yet methodologically divergent positions represented by Robin Alexander's dialogic pedagogy and Douglas Fisher and Nancy Frey's structured scaffolding model, whose conceptual tensions illuminate alternative pathways for rhetorical competence formation[9].

Alexander's dialogic framework proceeds from the epistemological premise that knowledge is socially co-constructed through exploratory talk, collective reasoning, and reciprocal questioning, thereby positioning discourse itself as the primary medium of cognition. From this standpoint, rhetorical competence emerges organically as a byproduct of sustained participation in intellectually rich dialogue, where teachers and learners collaboratively negotiate meanings. The strength of this perspective lies in its emphasis on authenticity and discursive freedom: rhetorical mastery develops through immersion in genuine communicative complexity rather than through prescriptive instruction[10]. However, Alexander implicitly assumes that dialogic environments alone are sufficient to generate communicative proficiency, which may underestimate the necessity of explicit methodological guidance for novice teachers who lack stable rhetorical schemas.

Conclusion

The conducted research confirms that the development of rhetorical competence among future primary school teachers constitutes not an auxiliary or secondary component of professional preparation but a system-forming factor that directly determines the effectiveness of pedagogical interaction, the quality of instructional communication, and the overall success of educational processes in the early stages of schooling. Within the contemporary paradigm of learner-centered and dialogically oriented education, the teacher's speech functions simultaneously as a cognitive, motivational, regulatory, and axiological instrument;

therefore, the absence of purposeful rhetorical training inevitably leads to communicative fragmentation, reduced persuasive capacity, and limited didactic impact. In this regard, the modernization of teacher education requires the transition from reproductive models of speech instruction toward innovative approaches that stimulate independent thinking, discursive flexibility, and reflective communicative behavior.

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