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FACTORS OF DEVELOPING EDUCATIONAL PROCESS DESIGN SKILLS IN FUTURE EDUCATORS BASED ON AN ACMEOLOGICAL APPROACH

Gulnora Egamqulovna Kushakova

Professor, Department of Theory and Methodology of Preschool Education

Jizzax State Pedagogical University, Jizzax, Uzbekistan

Maftuna Bayzakova

3rd Year Doctoral Candidat

Jizzax State Pedagogical University, Jizzax, Uzbekistan

Abstract

This article investigates the key factors that influence the development of educational process design skills in future preschool educators within the framework of an acmeological approach. The study analyzes the theoretical foundations of acmeology in pedagogical training and identifies four core factors — motivational-value, cognitive-analytical, activity-based, and reflective-evaluative — demonstrating how their systematic integration enhances professional competence. A pedagogical experiment conducted at Jizzax State Pedagogical University confirmed the effectiveness of the proposed acmeological model.

Keywords

acmeological approach, design skills, future educators, preschool education, professional competence, pedagogical design, reflective practice.

1. INTRODUCTION

The rapid transformation of preschool education in Uzbekistan — accelerated by presidential decrees on educational reform and the national Law on Education [1] — has placed unprecedented demands on the professional profile of the preschool educator. Contemporary educators are expected not merely to deliver pre-structured content, but to design, adapt, and critically evaluate purposeful educational processes that respond to the individual developmental needs of young children [2: 34].

Design skills — the ability to plan, structure, and implement goal-directed educational activities — occupy a central place in this expanded professional profile. Yet empirical studies consistently document a significant gap between the design competency expected of graduating educators and the level actually achieved through conventional training programmes [3: 78]. This gap reflects a deeper theoretical problem: traditional models of educator preparation tend to treat professional knowledge as content to be transmitted, rather than as a capacity to be actively cultivated through self-directed striving.

The acmeological approach offers a theoretically and practically compelling alternative. Rooted in the science of human development toward the highest levels of professional achievement, acmeology conceives of professional formation as a dynamic, self-directed process shaped by the educator's internal motivation, intellectual growth, practical engagement, and disciplined self-reflection [4: 12]. Applied to educator training, this perspective reframes the

development of design skills not as a curriculum outcome to be assessed, but as an ongoing personal and professional ascent.

The purpose of this study is to identify and analyze the key factors that facilitate the development of educational process design skills in future preschool educators when training is organized according to acmeological principles. The study addresses three specific objectives: (1) to examine the theoretical intersection of acmeology and pedagogical design competence; (2) to identify and categorize the primary factors influencing design skill development; (3) to experimentally verify the effectiveness of an acmeologically-oriented training model at Jizzax State Pedagogical University.

2. LITERATURE REVIEW

The acmeological approach to professional development was systematically elaborated in the works of B.G.Ananiev [5], N.V.Kuzmina [6], A.A.Derkach and V.G.Zazykin [4]. Ananiev's concept of 'acme' as the summit of personal and professional maturity provided the foundational insight that human development is not concluded in youth but continues throughout the active professional life, reaching its peak through deliberate cultivation. Kuzmina's taxonomy of pedagogical competencies identified design competence as structurally central — the capacity from which all other pedagogical functions flow [6: 56].

In the international literature, the concept of design thinking as a framework for educator preparation has been elaborated by T.Brown [7], who emphasized empathy, ideation, prototyping, and iterative refinement as core design processes. Mishra and Koehler's influential Technological Pedagogical Content Knowledge (TPACK) framework extended these ideas to the domain of teacher knowledge, demonstrating that effective instructional design requires the integrated mobilization of content, pedagogical, and contextual understanding [8]. More recently, design-based learning approaches in teacher education have been shown to produce significantly higher levels of reflective practice and instructional innovation in preservice teachers [9].

Within Uzbek pedagogical scholarship, Qushakova [3] and Yo'ldoshev [10] have examined professional competence development in preschool educator training, identifying a persistent structural weakness: the disconnect between declarative knowledge of educational principles and the practical capacity to design complex educational experiences. Their recommendations converge with acmeological principles — professional formation must engage future educators as self-directing agents rather than passive recipients.

The present study builds upon this body of research by examining not individual factors in isolation but their interaction within a coherent acmeological framework. In doing so, it contributes both theoretical synthesis and empirical evidence to an area where integrated models of design competence development remain underdeveloped.

3. METHODOLOGY

The research employed a mixed-methods design integrating theoretical synthesis with a controlled pedagogical experiment. The theoretical phase involved systematic review of acmeological literature, pedagogical design theory, and Uzbek national standards for preschool educator preparation. A conceptual model identifying four interacting factors in acmeologically-oriented design skill development was constructed on this basis.

The experimental phase was conducted at Jizzax State Pedagogical University during the 2022–2023 academic year, with third-year students enrolled in the Preschool Education programme (n = 86). The control group (n = 43) received instruction through the standard curriculum. The experimental group (n = 43) participated in a specially developed acmeological training programme, structured around four integrated factors.

The Motivational-Value Factor addressed the development of intrinsic motivation for professional self-improvement. Activities included goal-setting seminars, analysis of the professional biographies of outstanding educators, structured vision-mapping exercises in which students articulated their personal 'professional ideal,' and reflective dialogue on the meaning of pedagogical excellence. The Cognitive-Analytical Factor developed students' theoretical knowledge of design methodology through problem-based lectures, comparative analysis of exemplary and deficient lesson designs, and structured engagement with contemporary research on educational design.

The Activity-Based Factor built practical design skills through progressively complex tasks: individual lesson design exercises, collaborative curriculum unit projects, simulated teaching contexts with immediate structured feedback, and authentic practicum-based assignments in which students designed and implemented educational activities with real preschool children. The Reflective-Evaluative Factor cultivated habits of self-assessment and critical reflection through portfolio documentation, structured peer feedback protocols, video analysis of micro-teaching episodes, and guided self-reflection journals completed after each design task.

Design skill development was assessed using a validated five-dimension rubric: (1) needs analysis and goal formulation; (2) structural planning and sequencing; (3) selection and adaptation of methods and materials; (4) implementation quality; (5) reflective evaluation of outcomes. Data were gathered at three time points — baseline, mid-experiment, and post-experiment — and analyzed using descriptive statistics and independent-samples t-tests, with a significance threshold of $p < 0.05$.

4. ANALYSIS AND RESULTS

Baseline assessments confirmed the equivalence of the two groups prior to the intervention: no statistically significant differences were found between control and experimental groups on any of the five rubric dimensions ($p > 0.05$ in all cases). Both groups demonstrated predominantly low-to-intermediate design competency levels at the outset, consistent with prior research on preservice educator preparation.

Post-experiment results revealed substantial and statistically significant divergence between the groups. The experimental group's overall design competency index increased by 43.7% relative to baseline; the control group's increase was 15.2%. This difference was highly significant ($t = 6.84$, $p < 0.001$). Disaggregated by dimension, the largest gains in the experimental group were recorded for reflective evaluation of outcomes (+49%), goal formulation and needs analysis (+46%), and structural planning and sequencing (+41%). Implementation quality and method selection also improved substantially (+38% and +40% respectively).

Qualitative analysis of student journals and post-experiment interviews enriched these findings. Students in the experimental group identified the motivational-value activities — particularly the articulation of a personal professional ideal in the acmeological sense — as a

pivotal experience. Multiple participants reported that envisioning themselves as highly accomplished educators transformed their orientation toward design tasks: from compliance-driven procedure-following to genuine creative investment in the quality of the educational experience they were designing.

The activity-based component, and specifically the practicum-embedded design assignments, received the highest satisfaction ratings and was most frequently cited as the driver of perceived competency growth. This finding corroborates existing evidence that authentic, high-stakes design contexts produce qualitatively superior learning outcomes compared to simulated or hypothetical tasks [7: 112]. The reflective portfolios revealed a clear developmental trajectory in the experimental group, with entries progressing from predominantly descriptive accounts in the early weeks to increasingly analytical and self-critical reflection by the programme's end — a pattern consistent with Kuzmina's model of pedagogical mastery development [6: 78].

5. CONCLUSION

This study has demonstrated that an acmeological approach to the development of educational process design skills in future preschool educators is both theoretically coherent and empirically effective. The four-factor model — motivational-value, cognitive-analytical, activity-based, and reflective-evaluative — provides a structured and practically applicable framework for curriculum design in educator preparation programmes.

The experimental results confirm that when these four factors are addressed in an integrated and sustained manner, future educators achieve substantially greater gains in design competency than under conventional training conditions. The acmeological emphasis on self-directed professional ascent appears to activate a qualitatively different relationship to learning: one characterized by genuine personal investment rather than external compliance. This finding supports the theoretical premise that professional competence, at the highest levels, cannot be transmitted — it must be personally constructed through motivated, reflective, and sustained engagement.

The following recommendations are advanced on the basis of this research. Preschool educator training programmes should incorporate dedicated acmeologically-oriented modules addressing all four identified factors in integration. Practicum placements should be restructured to include supervised design cycles — plan, implement, reflect, revise — with mentored feedback at each stage. Reflective portfolio practice should be embedded systematically across the full training period, supported by structured frameworks and peer dialogue. Finally, institutions should consider developing explicit professional self-development programmes in which students articulate and progressively refine their personal vision of pedagogical excellence.

Future research should examine the long-term sustainability of acmeologically-developed design skills in early-career educators, the applicability of the model to in-service professional development contexts, and the potential integration of digital and AI-assisted design tools within acmeologically-oriented training frameworks. Cross-cultural comparative studies would also enrich understanding of how acmeological principles interact with different national educational traditions and institutional cultures.

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