



Pedagogical basis of the development of future teachers' didactic culture: Key components of formation

Gulnur Kantayeva^{1*}, Aizhan Baltynova², Altynay Dossanova³, Alzhanova Ainash², Farida Ospanova²

¹Pedagogical Institute, Astana International University, Astana 020000, Kazakhstan ²Department of Foreign Languages, L.N. Gumilyov Eurasian National University, Astana 010000, Kazakhstan ³Department of Social and Humanitarian Disciplines, Esil University, Astana, 010000, Kazakhstan

Corresponding author: Gulnur Kantayeva (Email: gkantaeva80@mail.ru)

Abstract

The purpose of this study is to explore how the development of professional and didactic culture is shaped by the pedagogical ideal of an integral teacher's personality. It aims to understand how didactic culture influences the teacher's professional competence, self-regulation, and self-development, ultimately contributing to their overall professional and pedagogical effectiveness. This research adopts a qualitative and interpretive approach, focusing on the theoretical and conceptual analysis of the professional and didactic culture of future teachers. It integrates pedagogical, psychological, and sociological perspectives to examine the interplay between the teacher's personal qualities, professional knowledge, didactic skills, and their internal culture. The study employs a literature review and theoretical modeling to explore the dynamics of professional self-regulation and the role of internal culture in shaping teacher competence. It is highlighted that didactic culture plays a dual role in shaping the teacher's professional identity and competence. It not only provides a framework for the teacher's external professional image but also fosters an internal culture that drives self-development and self-regulation. This internal culture is a critical component of professional and pedagogical culture, enabling teachers to achieve and sustain high levels of competence.

Keywords: Cognitive, Competence-oriented approach, Didactic competence, Didactic culture, Didactic training, Motivation-valued, Pedagogical competence, Professional education, Technological.

DOI: 10.53894/ijirss.v8i1.4931

Funding: This study received no specific financial support.

History: Received: 13 January 2025/**Revised:** 14 February 2025/**Accepted:** 19 February 2025/**Published:** 25 February 2025 **Copyright:** © 2025 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<u>https://creativecommons.org/licenses/by/4.0/</u>).

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Publisher: Innovative Research Publishing

1. Introduction

Integration into the world system of higher education, the emergence of new values, and the understanding of the importance of education have revealed the need for a new type of teacher capable of implementing a research-based scientific approach to organizing professional activities and preparing competitive specialists. These educational competencies form the basis for the development of the didactic culture of future teachers.

Today, the issues of multicultural education in the field of higher education are relevant. These statements in our study are pertinent, as deep knowledge of the theory of science, methodology, and technology ensures a high culture of the teacher, which we consider to be didactic culture.

The phenomenon under study, "didactic culture," is a part of human culture that reflects the views, ideas, and teaching methods of the new generation. At all stages of its development, various teaching models can be found within it. Didactic culture contains both generally accepted methods of activity based on tradition and innovative ones, which are the result of either individual or collective creativity. The foundations of the didactic culture of a future teacher are laid in the process of studying at a pedagogical university.

- Accumulation of knowledge.
- Understanding the methods of implementing the educational process.
- Norms of interaction among its participants and the subsequent application of this knowledge during pedagogical practice.

In this regard, we consider didactic culture a dialectical process that is constantly subject to change and improvement; therefore, it must develop in the process of professional pedagogical activity. Otherwise, this phenomenon ceases to have a cultural focus. The further development of didactic culture follows the path of improving pedagogical activity as a whole in the unity of its cognitive, technological, personal-activity, and axiological components.

As a phenomenon of pedagogical science, we define didactic culture as a complex phenomenon that contains components of the personal and professional qualities of a teacher, methodological training, and the ability to creatively approach the choice of pedagogical technologies, innovative approaches, forms, methods of teaching, and means. It also includes the ability to conduct a psychological assessment of students, methodologically sound didactic training, self-development and selfrealization, increasing the level of didactic and methodological training, constructively built didactic communication, and jointly organized activities with students.

2. Literature Review

Having analyzed the authors of scientific articles, monographs, and dissertations, we can identify definitions of the phenomenon of "didactic culture" according to their understanding and comprehension.

Isaev [1] defines didactic culture as part of the educational functional component of professional and pedagogical culture.

Fatyanova [2] understands it as "an integral quality of the teacher's personality, represented by the unity of motivationalvalue, innovative-technological, and personal-creative components that ensure productive didactic activity and creative selfrealization of the teacher." The function of didactic culture is to ensure productive didactic activity and creative selfrealization of the teacher.

Popova [3] highlights it as systemic education, representing the unity of the teacher's methodological literacy, mastery of innovative technologies, and personal-humane methods of interaction.

Grinyov [4] states that it is "integrated personal education, which predetermines the effectiveness of the educational and cognitive activity of the subjects of training, assists in the creation and development of pedagogical values and technologies, and stimulates self-development and creativity.

Usov [5] underlines it as "an integral quality of personality, determining its focus on the development of value orientations in professional activity as a set of didactic and professional knowledge, continuous improvement of didactic abilities, skills, and their implementation through creatively productive professional activity ".

Skulsky [6] asserts that didactic culture predetermines the effectiveness of the gnostic, research, design, constructive, communicative, and organizational-managerial activities of the teacher. The author writes that the didactic culture of the teacher is manifested in their ability to analyze, model, research, and improve the educational process, as well as to use the achievements of science and advanced pedagogical experience.

Igumnov [7] sees the purpose of didactic culture in ensuring productive didactic activity and creative self-realization of the teacher and in self-improvement.

Bodakov [8] attributes to didactic culture: methodological training; qualified mastery of modern teaching technology, new methods of teaching and education; oratory; the ability to incorporate the recommendations of psychological and pedagogical sciences into one's activities; mastery of the methodology of conducting electives; conducting pedagogical research; the ability to study and generalize advanced pedagogical experience; and the skill to propagate pedagogical knowledge among the population.

Akhmetov, et al. [9] consider didactic culture as an integrative quality of the individual, including a set of personal, subject, and professional values, a set of didactic-oriented general cultural, general professional, and professional competencies, the potential for self-development and self-management, and the implementation of pedagogical activity in accordance with didactic principles.

All the mentioned authors rightly believe that didactic culture is an "integral quality," "systemic education," "unity," "integrated education," and "totality." In this way, the authors emphasize the complex structure of didactic culture and its multicomponent nature. These terms also reflect the system-forming role of didactic culture.

Thus, synthesizing various approaches to the concept of didactic culture, we define didactic culture as a complex phenomenon that contains components of personal and professional qualities of a teacher, methodological training, and the ability to creatively approach the choice of pedagogical technologies, innovative approaches, forms, methods of teaching, and means, the ability to conduct a psychological assessment of students, methodologically sound didactic training, self-development and self-realization, increasing the level of didactic and methodological training, constructively built didactic communication, and jointly organized activities with students.

3. Materials and Methods

3.1. Participants and Data Collection

The experiment involved fourth-year students of the OP 6B01701 "Foreign Language: Two Foreign Languages." All respondents were included in the experimental focus group. In the fall semester of their fourth year, the respondents studied together in several practice-oriented disciplines such as "Teaching Methodology," "Practice of Teaching Differentiated Learning," and "Modern Trends in TESOL." Each respondent was under the supervision of one supervisor during their pedagogical practice at a secondary school, ensuring that they were in the same conditions.

Thus, we had the opportunity to observe the process from the beginning of the ascertaining experiment to the completion of the formative experiment and the acquisition of results. We conducted a comparative analysis of the initial results with those from the formative stage.

The ascertaining experiment aimed to identify the ways and methods for further improvement of the phenomenon under study. To reflect the results of the questionnaire, we logically differentiated the indicators into motivational-value, technological, cognitive, and personal-activity categories, which are presented in Table 1.

Table 1.

Indicators	Characteristics
ndicators of the didactic culture of	future teachers are based on the content components according to Professor I.F. Isaev.
abic 1.	

Indicators	Characteristics
Value-based attitudes	The motivational-value component of a teacher's didactic culture is represented by a set of
toward didactic activities	pedagogical values that act as guidelines on which teachers base their activities. When
and the motivational-	accumulated, these values acquire cumulative development and determine the internal content
value component.	of the teacher's personality. The values of didactic culture serve as promising strategic motives
	and tasks that each teacher sets for themselves, striving to implement them. Therefore,
	substantive values orient each teacher toward professional self-realization and focus their
	attention on the experience of creatively implementing pedagogical activities.
Cognitive component	The cognitive component of the didactic culture of a teacher is a complex of didactic,
	professional-methodological, and psychological-pedagogical knowledge. Professional
	knowledge is the basis for the development of didactic culture as a whole, increases the
	effectiveness of didactic activity, serves as a condition for the successful resolution of personal
	and professional problems, and acts as a means of their resolution.
Technological readiness	The technological component is, on the one hand, the means and methods of cognition of
for didactic activity	reality, carried out through the process of thinking, and on the other hand, a set of didactic
(technological	skills. The technological component of the didactic culture of the teacher is considered a set
component)	of didactic skills and abilities, in which the requirements of professional activity are system-
	forming. Therefore, the improvement of didactic skills and abilities is carried out in the context
	of the activity, the orientation basis, and means of regulation of which they are called upon to
	act. The technological component of the didactic culture of the teacher is a mechanism for the
	implementation of didactic skills and abilities by teachers, with the help of which they use
	their professional knowledge in practical activities.
The degree of creative	The personal-activity component of the didactic culture represents interconnected and
self-realization in	interdependent didactic aspects of readiness for the creative implementation of the educational
didactic activity.	process. By entering into the process of didactic interaction with students, the teacher realizes
(Personal-activity	his personal potential in this activity. Therefore, the teacher's creativity is an important
component	component of his scientific and pedagogical activity; this is a specific aspect of his personality,
	sensory sphere, and behavior. The effectiveness of the creative component of the teacher's
	didactic culture depends on the level of his theoretical training, personal qualities, and style
	of pedagogical activity, which improves depending on the level of development of the didactic
	culture.
Note – Compiled from sou	rce [10]

3.2. Measurement

A scale for measuring the didactic culture of a future teacher was compiled, allowing for the assessment of the level of professional training, taking into account the components of the development of didactic culture. The main goal is to identify the strengths and weaknesses of the didactic culture and outline ways to improve it. The scale has three levels: high, medium, and low, each of which reflects the degree of formation of the didactic culture and is presented in Table 2.

Table 2.

Scale for measuring the didactic culture of future teachers based on content components.

Indicators	Low level	Average level	High level
	From 50 and less	From 51 to 80	From 81 to 100
	(3-scores)	(4-good)	(5-excellent)
Motivational and	- There is a weak awareness of the	- Awareness of his role as	- A deep awareness of
value-based	importance of their role in education	a mentor is present, but	their role as a mentor.
	and training.	he does not fully	- A deep respect for the
	- Insufficient attention is given to the	understand its deep	personality of each
	personal characteristics of students	significance for the	student taking into
	- Stable pedagogical values are not	formation of the student's	account their individual
	being formed	personality	needs and the desire to
	- There is a lack of need for conscious	- He shows interest in the	create conditions for their
	self-development and professional	personal characteristics	comprehensive
	improvement	of students and begins to	development
	F	take their individual	- Humanistic pedagogical
		needs into account, but	values are steadily formed.
		this approach has not vet	- A constant desire for
		become systemic.	personal and professional
		- The values of	growth.
		humanistic education are	- Improves qualifications
		gradually being formed.	and actively explores and
		- He strives for self-	implements new
		development, but it	pedagogical approaches.
		largely depends on	- Self-development
		external incentives.	becomes an important
			component of pedagogical
			activity.
Cognitive	- Has fragmentary knowledge of	- Is well-versed in the	- Has deep and systematic
-	didactics, the basics of the	basic didactic principles	knowledge of didactics
	pedagogical process, and teaching	and teaching methods and	and the modern
	methods.	is familiar with modern	educational process.
	- Experiences difficulties in	approaches and theories	- Is capable of
	transferring theoretical knowledge to	of education.	independently designing
	practice.	- Is able to adapt	the educational process
	- Lacks a clear idea of how to	theoretical knowledge to	and selecting teaching
	effectively organize the educational	specific educational	methods and techniques
	process.	situations.	based on the analysis of
	 Lacks lesson planning skills. 	- Shows interest in	specific educational
	- Poorly understands the connection	pedagogical research,	conditions and students'
	between theory and practice and is	analyzes and evaluates	needs.
	insufficiently aware of the	his/her pedagogical	- Is capable of deep
	importance of didactic culture for his	activity, but is not always	reflection on his or her
	profession.	capable of critically	pedagogical activity.
		rethinking his/her own	- Critically evaluates the
		actions.	results of his or her work
			and strives for continuous
			professional development.
			- Understands didactic
			culture as an integral part
			of pedagogical skill and
			works to improve it.
Technological	- Knowledge and rational	- Knows and can use	- Knows and demonstrates
readiness	implementation of teaching and	teaching and control	the rational use of
	control technologies, as well as	technologies, as well as	teaching and control
	forms and methods of teaching, are	various forms and	technologies, as well as
	poorly expressed.	methods of teaching.	forms and methods of
	- The ability to design and plan the	- Has the ability to design	teaching.
	educational process is poorly	and plan the educational	- Has a clearly expressed
	expressed.	process, though	ability to design and plan
	- Unable to determine the optimal	sometimes makes	the educational process.
	conditions for organizing the	mistakes.	- Is able to determine the
			optimal conditions for

Indicators	Low level From 50 and less (3-scores)	Average level From 51 to 80 (4-good)	High level From 81 to 100 (5-excellent)
	learning process based on personal assessments. - Multiple mistakes are made.	- Is able to determine the conditions for organizing the learning process based on identified patterns.	organizing the learning process based on personal assessments.
Personal and active	 Low professional motivation. Poor awareness of the importance of pedagogical activity and its impact on the development of students. Professional tasks are perceived as routine, without a desire for self- improvement. Lack of clear pedagogical convictions and orientation towards educational values. The practical activity of the teacher is formal in nature, focused on fulfilling minimum requirements. Lack of need for professional reflection and self-development. 	 Realizes the importance of his profession and strives for professional development, but his motivation largely depends on external factors. Begins to form his pedagogical values and understands the importance of respecting the student's personality, although these attitudes are not always stable and sustainable. Knows how to organize the educational process at a level that meets modern requirements. Is capable of partial reflection on his professional activity. Periodically analyzes the results of his work and strives to improve them. 	 High internal motivation for teaching. Is aware of his mission and role in the formation of students' personalities. Strives for professional growth and improvement of his competencies, regardless of external conditions and incentives. A clear system of pedagogical values has been formed, based on respect for the personality of the student and his educational and personal needs. The teacher shows a high level of initiative and independence in organizing the educational process. Regularly and deeply analyzes his professional actions, is aware of his own mistakes and achievements, and actively works to improve them. Strives for constant self- development and professional growth.

Note: Compiled from source [5]

In order to identify conditions that contribute to the development of didactic culture, we considered it necessary to determine the initial levels of development of didactic knowledge at the moment and the presence of didactic experience in students—future teachers—which can serve as a starting point and positively influence its development, promoting professional self-improvement and self-realization. At the initial ascertaining stage, a survey was conducted on value orientation; the questions aimed to identify the attitude toward the profession as a value, understanding and experiencing its significance both for society and for one's own development, interest in the discipline taught and educational issues in general, passion for science, and the desire for self-improvement. Didactic values act as motives for the teacher's activities.

3.2.1. Participants' Reflection

Based on the obtained results of the ascertaining experiment, we conclude that the development and renewal of the technology of educational activities for the future teacher of a modern school occurs on the basis of traditional learning experiences. We do not conclude that the level of didactic culture is low solely because innovative forms of didactic activity have not been mastered. Innovations, due to the conservatism and maturity of the existing didactic system in mass practice, are of an elementary nature. The systemic nature of innovations in the teacher's activities is determined by their personal qualities and the conditions of the didactic process. At the initial stage of their teaching profession, students are at the search-adaptive and intuitive-practical levels.

International Journal of Innovative Research and Scientific Studies, 8(1) 2025, pages: 2203-2212

In conversations, consultations, and personal practice, a "deficit" of modern didactic literature was noted, as well as the absence of textbooks on modern teaching technologies, especially in specialized, advanced disciplines, and special courses, which forces one to independently construct the content and change the didactic process, intuitively relying on the experience of their mentor-teachers. However, it can be assumed that after completing their studies at a higher educational institution, writing a diploma thesis, and completing pedagogical and pre-graduation practice, along with individual consultations with their teachers and mentors, students—future teachers—will be able to acquire the necessary knowledge that will be applicable in their further practical pedagogical activities. With the acquisition of experience and seniority, theoretical knowledge in the fields of didactics, pedagogy, psychology, and methods of teaching their subject will only increase and develop.

Thus, we determined the average indicator for all components at the ascertaining stage and reflected it in Table 3.

Table 3. Average component index by levels at the ascertaining stage.

Group	Components	At the initial stage		
Focus		Low	Medium	High
Group	Motivational and value-based	56.5	44.5	6
-60	Cognition	55.5	39.3	5.2
respondent	Technology	51.4	41.6	7
S	Personal and active	53.2	40.4	6.5



Ascertaining experiment data

Figure 1.

Level of indicators for the formation of didactic culture by components.

We consider these indicators not critical since students have not yet completed the professional stage of training and are not involved in practical teaching activities. As students, they study, learn, and practice more at the theoretical level. Based on the results of the ascertaining experiment, we identified the following conditions for the favorable development of the didactic culture of future teachers:

High-quality professional education: Curricula should include both theoretical and practical components aimed at developing pedagogical and methodological competencies. It is necessary to pay attention to modern educational methods, technologies, and approaches.

Practice and work experience: Regular pedagogical practices, internships, and participation in real educational processes help future teachers apply the knowledge they have acquired in practice, developing teaching skills and interacting with students.

Reflective activity: It is important to develop future teachers' ability to self-analyze and critically understand their activities. Reflection helps to identify strengths and weaknesses in teaching, promoting continuous professional growth and self-development.

Support from mentors and experienced colleagues: Active interaction with more experienced teachers, participation in pedagogical communities and seminars, and consulting with mentors help future teachers adopt best practices and develop their own didactic skills.

Developing research skills: Training should include elements of research work so that future teachers can critically understand educational processes, create, and test new teaching methods and technologies.

Motivation and focus on self-education: Developing motivation for continuous learning and self-development in the profession among future teachers, along with awareness of the need for continuous professional growth.

Innovative educational environment: Creating conditions for the use of modern technologies and digital tools in the learning process allows future teachers to master current methods of working with students.

These conditions contribute to the development of didactic culture in future teachers, increasing their readiness for professional activity in educational institutions.

3.4. Data Analysis

The results of the experiment show positive dynamics in the outcomes of the work. The process of developing the didactic culture of future teachers has a diverse, multifaceted nature, depending on many internal (personal) factors, as well as on environmental conditions, which is why their didactic culture has grown. During the experimental work, changes occurred both in the structure of the didactic culture and in the content of their professional activities, emotional sphere, and sphere of personal self-realization.

When analyzing external and internal factors influencing the educational process, it was found that traditional didactic training of future teachers at the university has the necessary productivity; however, university students are not yet fully formed professionals in their activities and have a number of problems with didactic design in the organization of pedagogical activity. They do not yet have self-development skills at the proper level and, in general, have average independence in professional activity in the learning process. Based on this, we can state that the didactic training of a specialist in the system of continuous pedagogical education is a successive pedagogical process aimed at developing the didactic culture and competence of the teacher, ensuring their mastery of didactic activity, the readiness of the individual for productive interaction, and the development of the learning process.

Also, at this stage of the initial professional development of a student as a future teacher, their ability to self-coordinate their activities, self-analyze, self-reflect, and self-manage is insufficient at the proper level. At this stage of training, most students have average abilities for self-development in professional activities, and motivation for the profession is implicitly expressed.

In our opinion, this gap must be eliminated by organizing pedagogical activities in the form of guest lectures, training sessions, master classes, consultations from leading teachers, practical seminars, and round tables aimed at developing the student's abilities for self-organization, self-analysis, and self-development in professional and personal terms. Self-development in pedagogical activities is relevant for a teacher, as one of the features of the professional activity of a future teacher is the adaptation of educational material. It is necessary to constantly be aware of the current situation in society, convey and adapt the material, and build classes under varying conditions.

4. Results

4.1. Qualitative Findings

The data obtained from respondents regarding the required changes in the didactic training of a modern teacher, identified by us based on the analysis of psychological and pedagogical literature, allowed us to determine the essence and structure of the didactic culture of a future teacher. We identified indicators and levels of formation based on components such as motivational-value, cognitive, technological, and personal-activity.

At the ascertaining stage, the initial level of didactic training in the focus group was assessed, and the components of didactic culture were analyzed by studying the results of farrowing, expressing criteria and indicators. The dependencies of the formation of levels of didactic culture were also studied.

The formative stage of the pedagogical experiment included the implementation of a structural and content model for the development of the didactic culture of a future teacher in the educational process of professional training.

Based on the second stage, scientific, pedagogical, and organizational conditions necessary for the productive and creative implementation of technology were identified, along with personal characteristics of future teachers. Factors were determined that contribute to the optimal conditions for achieving the highest levels of didactic culture.

To prove the effectiveness of the activities carried out for the development of the didactic culture of future teachers, a statistical analysis was conducted in our study for all components of the didactic culture.

Checking the sample for compliance with the normal distribution law using the Kolmogorov-Smirnov criterion showed that the sample did not comply with the normal distribution law. Considering that one dependent sample participated in the study, we chose the nonparametric Wilcoxon T-test for two related samples to conduct the analysis. The data are shown in Figure 1.



Figure 2.

Average values for parameters before and after the experiment.

Significant differences in the indicators of the didactic culture of future teachers before and after the experiment are reflected in Table 4.

Table 4.

Significant differences in the indicators of the didactic culture of future teachers were observed before and after the experiment.

Indicators	Average value Before	Average value After	Z	p-level
The necessity of being a professional educator.	3,4	3,9	-4.400	$P \le 0.001$
The desire to develop one's inner worldview.	3,7	3,9	-2.762	$P \le 0.01$
The desire to develop emotional intelligence.	3,6	3,9	-3.819	$P \le 0.001$
Creative imagination and thinking.	3,5	3,9	-4.413	$P \le 0.001$
The desire to cultivate positive relationships with students and colleagues.	3,3	3,9	-4.767	$P \le 0.001$
Comprehensive development of personality.	3,4	3,9	-4.939	$P \le 0.001$
Preparation and motivation of students for independent work.	3,1	3,8	-5.565	$P \le 0.001$
The development of individual qualities in students.	3,2	3,8	-5.856	$P \le 0.001$
Development of speech abilities. Ability to explain	3,1	3,8	-5.601	$P \le 0.001$
Erudition and objectivity in assessing the results of one's creative activity.	3,1	3,7	-5.771	$P \le 0.001$
Creativity and the ability to abandon stereotypes in didactic activities.	3,2	3,8	-5.754	$P \le 0.001$
Development of the ability for self-analysis and reflection.	3	3,7	-5.905	$P \le 0.001$
Ability to organize educational activities rationally.	2,7	3,6	-6.283	$P \le 0.001$
Attitude towards one's educational activities.	2,8	3,6	-6.132	$P \le 0.001$
Attitude towards students.	2,7	3,5	-6.129	$P \le 0.001$
Attitude toward oneself	2,7	3,4	-6.099	$P \le 0.001$
The proficiency in the subject being taught.	2,7	3,6	-6.289	P ≤.0.001
The level of knowledge regarding teaching methods and the active application of this knowledge in practical activities when planning the educational process within a specific lesson should be based on	2,5	3,5	-6.579	$P \le 0.001$
the topic, goals, and objectives of the lesson.				

Indicators	Average value Before	Average value After	Z	p-level
The level of knowledge in the field of pedagogy and didactics.	2,4	3,5	-6.424	$P \le 0.001$
The level of knowledge regarding the theoretical foundations in the field of developmental psychology.	2,5	3,4	-6.511	$P \le 0.001$
Knowledge of scientific advancements in the area of a methodological issue.	2,3	3,3	-6.472	$P \le 0.001$
Ability to set goals for academic work correctly.	2,5	3,5	-5.944	$P \le 0.001$
Ability to plan lessons using active and interactive teaching methods.	2,5	3,5	-6.581	$P \le 0.001$
Ability to present material in an accessible form in accordance with didactic principles.	2,6	3,6	-6.542	$P \le 0.001$
Ability to effectively communicate your teaching experience in the educational process.	2,6	3,7	-6.006	$P \le 0.001$
Ability to implement interdisciplinary connections.	2,5	3,7	-6.461	$P \le 0.001$
Ability to introduce didactic innovations, implement modern innovative technologies, methods, and teaching techniques.	2,4	3,6	-6.610	$P \le 0.001$
Ability to predict results.	2,5	3,7	-6.446	$P \le 0.001$
Ability to assess the effectiveness of implementing innovations.	2,5	3,6	-6.730	$P \le 0.001$
Ability to carry out subsequent refinements of innovations and make changes to the innovative didactic system.	2,6	3,6	-6.276	$P \le 0.001$
Ability to conduct traditional training.	2,7	3,8	-6.421	$P \le 0.001$
Ability to conduct innovative teaching activities.	3	4	-6.231	$P \le 0.001$
Ability to support students and colleagues in the workplace.	2,9	3,9	-6.471	$P \le 0.001$
Ability to establish cooperative relationships with students and engage in dialogue with them.	2,7	3,9	-6.514	$P \le 0.001$
Ability to maintain composure even in situations of high emotional stress.	2,7	3,9	-6.903	$P \le 0.001$
Ability to organize educational activities for students.	2,9	3,8	-5.923	$P \le 0.001$
Ability to implement objective pedagogical assessments.	2,6	3,7	-6.707	$P \le 0.001$
Note – Compiled by the author				

5. Discussion

Analyzing the obtained data, we can conclude that as a result of the activities conducted, students—future teachers have experienced significant growth in all indicators. The differences revealed allow us to discuss the effectiveness of the practical classes, consultations, seminars, and lectures for the development of the didactic culture of the teacher. Thus, we conclude that in the process of developing the didactic culture, it is necessary to create favorable conditions for the manifestation of significant signs that contribute to the development of the creativity of the personality of the future teacher, their cognitive activity, erudition, critical and analytical thinking, and the expansion of general horizons.

Furthermore, during the experimental work, positive dynamics were observed in the skills that students acquired during pedagogical practice, additional classes, and the inclusion of students in various active forms and methods of didactic activity (open classes, mutual visits, discussions, involvement in experimental work, analysis and self-analysis of the lesson, and the effectiveness of the results of their educational and creative activities). Additionally, various forms of scientific and methodological work were implemented (methodological circles, clubs for the development of communication skills, communication training, personal growth of the teacher, schools for young teachers, scientific and methodological councils, scientific and practical conferences, seminars, creative exhibitions, etc.). The proposed approaches aim to activate the activities of the future teacher to master and utilize didactic culture in their teaching practice. A teacher with a developed didactic culture possesses the skills to model and organize the educational process, analyze the results of their own pedagogical activities, and apply methods of didactic activity.

6. Limitations

The problem of the formation and development of didactic culture is one of the most urgent issues in the professional development of future teachers in professional educational institutions. An analysis of theoretical studies allows us to

conclude that didactic culture is an integral part of pedagogical culture and an important professional and personal characteristic of a teacher.

The issue of didactic culture in the system of pedagogical sciences has not been directly addressed. A wealth of material has been accumulated in the fields of didactics, methodology, and pedagogical technologies; numerous studies have been conducted in the area of professional and pedagogical culture and its types. However, the development of didactic culture has not been the subject of a special study. There is no precise definition of it in the scientific literature; this category is used indirectly, without theoretical justification.

7. Future Research

Our research allowed us to identify a new direction in the study of professional and pedagogical culture: defining the essence of the didactic culture of a future teacher, identifying the conditions and technology for its effective formation and development in the context of pedagogical activity.

As areas for further scientific research, we highlight: deepening research in the field of didactic cultural creativity; didactic support for the process of formation and development of the didactic culture of future teachers; analysis of didactic components that ensure effective professional activity between didactic cultural creativity and the formation of the professional culture of a future specialist; and a cultural approach to the study of didactic activity and mechanisms of didactic creativity.

8. Conclusions and Implications

Based on this, we can state that the didactic training of a specialist in the system of continuous pedagogical education is a successive pedagogical process aimed at developing the didactic culture and competence of the teacher, ensuring their mastery of didactic activity, and the readiness of the individual for productive interaction and development of the learning process. Also, at this stage of the initial professional development of a student as a future teacher, their ability to self-coordinate their activities, self-analyze, self-reflect, and self-manage is insufficient at the proper level, since at this stage of training, most students have average abilities for self-development in professional activity, and motivation for the profession is implicitly expressed.

In our opinion, this gap should be eliminated by organizing pedagogical activities in the form of guest lectures, educational training, master classes, and consultations from leading teachers, as well as practical seminars and round tables aimed at developing the student's abilities for self-organization, self-analysis, and self-development in a professional and personal sense. Self-development in pedagogical activities is relevant for a teacher, as one of the features of the professional activity of a future teacher is the adaptation of educational material; it is necessary to constantly be aware of the current situation in society, convey and adapt the material, and build classes under varying conditions.

Based on the work done earlier (questionnaires of participants in the pedagogical process, analysis of educational literature, modern scientific and methodological publications, and research papers), we can conclude that it is necessary to introduce additional training into the professional pedagogical training of future teachers, focusing on the development of professional competencies. The goal is to master such a type of professional activity as creative self-development, self-improvement, and self-analysis in both professional and personal contexts, as well as to form additional knowledge, skills, and develop the skill of independent work of future teachers in a professional and personal sense.

This conclusion determined the need to strengthen the didactic training of future teachers by integrating the theory and practice of pedagogical activity, implementing problem-based and project-based learning technologies in educational settings. These technologies contribute to the ability to set goals and objectives for learning educational material, stimulate motivation for learning and perception of educational material, organize students' reflection, and monitor, analyze, and adjust the process of learning educational material. The focus of projects on solving problems in the subject area will ensure the formation of personal qualities and subject components of the didactic culture of the future teacher.

References

- [1] I. F. Isaev, *Professional and pedagogical culture of a teacher*, 2nd ed. Moscow: Publishing Center "Academy, 2004.
- [2] N. M. Fatyanova, "Formation of the didactic culture of a teacher of a multidisciplinary gymnasium," Doctoral Dissertation, Belgorod, 1999.
- [3] T. V. Popova, "Pedagogical conditions for the formation of the didactic culture of a primary school teacher," Doctoral Dissertation, Izhevsk, 2002.
- [4] V. I. Grinyov, Formation of the didactic culture of a future teacher. Kharkiv: V. N. Karazin Kharkiv National University, 2002.
- [5] A. A. Usov, "Formation of professional and didactic culture of teachers of additional education," Doctoral Dissertation, Moscow, 2005.
- [6] R. P. Skulsky, *Increasing the efficiency of didactic training of future teachers: Methodological recommendations*. Kyiv: Higher School, 1987.
- [7] O. A. Igumnov, *Development of didactic culture of a teacher of a technical college*. Belgorod: Belgorod State University Press, 2003.
- [8] A. V. Bodakov, "Comprehensive nature of training a subject teacher," presented at the Improving Methodological Training of a Teacher in a Pedagogical University: Report Summary of the Republican Scientific Conference, Grodno: Koloss, 1976.
- [9] L. Akhmetov, I. Faizrakhmanov, and A. Faizrakhmanova, "Features of the use of direct communicative interaction in the course of the formation of professionally significant competence.," in *Proceedings of the 3rd International Congress on Interdisciplinary Behavior and Social Science, Bali, Indonesia*, 2014, pp. 107–111.
- [10] S. T. Taubaeva, *Research culture of the teacher: From theory to practice*. Almaty: Kazakh University, 2016.