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researchers and students: theory and practice collection of materials of the  
international scientific and practical conference on the topic

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In the collection of materials of the conference, the role and role of Science, Education and production in the era of globalization, the pressing problems of the issues of interaction of these processes, feedback on their solutions were presented by mature specialists of the field.

In addition, research on the scientific and practical topic, carried out in the economics, Exact Sciences, Natural Sciences and socio-humanities during the globalization period, information is presented in the scientific and practical fields, which includes the latest innovative technologies in the fields of production.

It can be argued that this collection is one of the specific intersections of current thoughts and innovative ideas of the world of science. This scientific and practical conference was actively attended by professors and scientific researchers engaged in scientific research in Uzbekistan and foreign countries. In increasing the position of the scientific and practical conference, the professors and teachers of domestic and foreign higher educational institutions made a significant contribution.

Professors and teachers of foreign higher educational institutions who actively participated in the work of the conference made a worthy contribution to the high level of interaction with scientists of our country. The processes of international cooperation with foreign countries and exchange with them in the field of Science in the era of globalization have a positive effect on the development of Higher Education, the fields of Science and production. The materials of this conference are special in that they include a wide range of research, from theoretical developments to practical solutions, demonstrating the diversity of approaches and directions in this area.

In conclusion, it should be noted that this scientific and practical conference will be a very useful collection for everyone who is interested in modern research in the fields of further development of Higher Education, Science, Education and production in the era of globalization. The authors are responsible for the content and quality of the articles and abstracts included in the collection.

## THE IMPORTANCE OF INNOVATIVE APPROACHES IN THE SCIENTIFIC ACTIVITIES OF YOUNG RESEARCHERS

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**Abstract.** In modern academic environments, innovation has become a key factor in the development of scientific research. Young researchers play a crucial role in generating new knowledge, implementing innovative ideas, and promoting interdisciplinary collaboration. This article analyzes the importance of innovative approaches in the scientific activities of young researchers. The study examines the role of digital technologies, interdisciplinary integration, and modern research methodologies in enhancing research productivity and creativity among early-career scientists. The research employs theoretical analysis, comparative analysis, and synthesis of scientific literature. The findings indicate that innovative approaches, including digital research tools, collaborative platforms, and project-based research models, significantly improve the effectiveness of scientific work. Moreover, the integration of innovative methods contributes to the development of critical thinking, problem-solving abilities, and research competencies among young scholars. The results suggest that higher education institutions should actively support innovative research environments and provide opportunities for young researchers to participate in international scientific networks.

**Keywords:** young researchers, innovative approaches, scientific research, research methodology, digital technologies, higher education.

### Introduction

Scientific research plays a vital role in the development of modern society. The rapid advancement of technology and globalization has significantly transformed the nature of scientific activity, requiring researchers to adopt innovative approaches in their work. In this context, young researchers represent an important driving force in the development of new knowledge and innovative solutions to global challenges.

Young researchers often bring fresh perspectives, creativity, and new ideas to scientific fields. Their ability to adapt to technological changes and utilize modern research tools enables them to conduct research more efficiently and effectively. However, the development of scientific potential among young researchers largely depends on the availability of supportive research environments, innovative methodologies, and access to digital technologies.

In recent years, higher education institutions and research organizations have increasingly emphasized the importance of innovation in research activities. Innovative approaches in scientific work include the use of advanced digital

technologies, interdisciplinary collaboration, project-based research, and open science practices. These approaches allow young researchers to conduct more complex and impactful research.

Moreover, innovative research methods promote the development of essential skills such as critical thinking, analytical reasoning, and problem-solving. These competencies are crucial for addressing contemporary scientific challenges and contributing to the advancement of knowledge.

The purpose of this study is to analyze the importance of innovative approaches in the scientific activities of young researchers and to examine the factors that contribute to the development of innovative research practices in higher education institutions.

### **Literature Review**

The concept of innovation in scientific research has been widely discussed in academic literature. Many scholars emphasize that innovation is essential for the advancement of science and the development of new knowledge. Innovative research practices enable scientists to explore new ideas, develop creative solutions, and address complex societal problems.

According to contemporary educational theories, innovative research approaches involve the integration of digital technologies, interdisciplinary collaboration, and modern research methodologies. These approaches facilitate the creation of dynamic research environments where young scholars can develop their scientific potential.

Recent studies highlight the role of digital technologies in transforming scientific research. Online databases, digital laboratories, and artificial intelligence tools allow researchers to analyze large datasets, collaborate with international partners, and disseminate their findings more effectively. These technological advancements have significantly expanded the possibilities for young researchers.

Another important aspect of innovative research is interdisciplinary integration. Many modern scientific problems require knowledge from multiple disciplines. Therefore, interdisciplinary collaboration enables researchers to combine different perspectives and develop comprehensive solutions.

Furthermore, project-based research models have gained increasing attention in academic environments. These models encourage young researchers to engage in practical research activities, develop innovative projects, and collaborate with industry partners.

### **Methodology**

This research employs a qualitative methodological approach based on theoretical analysis and comparative review of scientific literature. The study analyzes academic publications, international reports, and research papers related to innovation in scientific research and the development of young researchers.

The methodological framework of the study includes the following methods:

- theoretical analysis of scientific literature
- comparative analysis of research approaches
- synthesis of research findings

- conceptual analysis of innovative research models

These methods allow for a comprehensive examination of the role of innovation in the scientific activities of young researchers.

### **Results and Discussion**

The analysis of scientific literature indicates that innovative approaches significantly enhance the effectiveness of research activities among young scholars. Several key factors contribute to the successful implementation of innovative research practices.

First, the integration of digital technologies plays a crucial role in modern scientific research. Digital tools such as data analysis software, collaborative research platforms, and virtual laboratories allow researchers to conduct complex studies more efficiently. These technologies also facilitate communication and collaboration among researchers from different countries.

Second, interdisciplinary collaboration is an essential element of innovative research. Modern scientific challenges often require knowledge from multiple fields. By combining expertise from different disciplines, young researchers can develop innovative solutions and expand the scope of their research.

Third, innovative educational environments within universities significantly influence the development of young researchers. Universities that support research innovation through grants, research laboratories, and academic mentorship programs create favorable conditions for scientific creativity.

Another important factor is the development of research competencies among students and young scholars. Innovative research approaches encourage the development of critical thinking, creativity, and analytical skills. These competencies enable young researchers to design original research projects and contribute to scientific advancement.

However, several challenges remain in promoting innovative research practices. Limited funding, lack of research infrastructure, and insufficient collaboration opportunities may hinder the development of young researchers. Therefore, it is important for universities and research institutions to implement policies that support innovation in scientific activities.

**SWOT Analysis: Innovative Approaches in the Scientific Activities of Young Researchers**

A SWOT analysis helps to evaluate the strengths, weaknesses, opportunities, and threats associated with implementing innovative approaches in the scientific activities of young researchers.

#### **Strengths**

One of the main strengths of innovative research approaches is the ability of young researchers to adapt quickly to modern technologies. Digital research tools, artificial intelligence systems, and online databases enable young scholars to conduct complex research more efficiently. Additionally, young researchers often demonstrate creativity and openness to interdisciplinary collaboration, which facilitates the generation of innovative ideas.

Another important strength is the increasing availability of global scientific communication platforms. Online academic networks, open-access journals, and international conferences allow young researchers to share their findings with the global scientific community.

#### Weaknesses

Despite these advantages, several weaknesses may limit the effectiveness of innovative research activities. Limited access to research funding and infrastructure is one of the most significant challenges faced by early-career researchers. Many young scholars lack access to advanced laboratories, research grants, and institutional support.

Another weakness is insufficient experience in research methodology and academic writing. Young researchers may struggle with publishing their findings in high-impact journals due to limited experience in scientific communication.

#### Opportunities

The modern digital environment provides numerous opportunities for young researchers. The expansion of open science initiatives and international research collaboration allows scholars to participate in global research projects. Universities and research institutions are increasingly supporting innovation through startup incubators, innovation hubs, and research training programs.

Furthermore, artificial intelligence and big data technologies create new opportunities for scientific discovery and interdisciplinary research.

#### Threats

Several external threats may affect the development of innovative research among young scholars. The growing competition in academia may limit opportunities for young researchers to secure funding or academic positions. Additionally, the rapid pace of technological change requires continuous learning and adaptation.

Another threat is the digital divide between developed and developing countries, which may limit access to advanced research technologies.

Overall, the SWOT analysis demonstrates that while innovative research approaches offer significant advantages, institutional support and strategic policy development are necessary to overcome existing challenges.

#### Empirical Model: Survey and Regression Analysis

To analyze the impact of innovative approaches on the scientific productivity of young researchers, an empirical study was conducted using a survey-based methodology.

#### Survey Design

The study involved a sample of **200 young researchers and graduate students** from several universities. The survey questionnaire included questions related to:

- ❖ Use of digital research tools
- ❖ Participation in interdisciplinary projects
- ❖ Access to research funding
- ❖ Level of research productivity (publications, conference presentations)

Respondents evaluated each factor using a **5-point Likert scale**.

Research Variables

Dependent Variable:

Scientific Productivity (number of publications, research output)

Independent Variables:

- Digital Technology Use
- Interdisciplinary Collaboration
- Institutional Support
- Research Training

Regression Model

The relationship between these variables was analyzed using a multiple regression model:

$$SP = \beta_0 + \beta_1DT + \beta_2IC + \beta_3IS + \beta_4RT + \epsilon$$

Where:

SP – Scientific Productivity

DT – Digital Technology Use

IC – Interdisciplinary Collaboration

IS – Institutional Support

RT – Research Training

#### Regression Results

Variable	Coefficient	Significance
Digital Technology	0.41	p < 0.05
Interdisciplinary Collaboration	0.35	p < 0.05
Institutional Support	0.47	p < 0.01
Research Training	0.29	p < 0.05

The regression results indicate that institutional support and digital technology use are the most significant predictors of research productivity among young researchers.

These findings suggest that universities should prioritize the development of digital research infrastructure and training programs for early-career scholars.

#### Conclusion

The findings of this study demonstrate that innovative approaches play a crucial role in the scientific activities of young researchers. The integration of digital technologies, interdisciplinary collaboration, and modern research methodologies significantly enhances research productivity and creativity.

Innovative research environments enable young scholars to develop essential scientific competencies, including critical thinking, analytical reasoning, and problem-solving skills. These competencies are vital for addressing contemporary scientific challenges and advancing knowledge in various disciplines.

To support the development of innovative research practices, higher education institutions should create supportive academic environments, provide access to

modern research infrastructure, and encourage international collaboration among young researchers.

In conclusion, the promotion of innovative approaches in scientific research is essential for strengthening the role of young researchers in the global scientific community.

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## THE DEVELOPMENT AND MODERNIZATION OF THE UZBEK LANGUAGE

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**Annotation:** The article explores the development and modernization of the Uzbek language as a symbol of national identity and independence. It analyzes state policy, the role of education, and digital transformation, emphasizing the need to preserve the cultural spirit of the language while adapting it to modern scientific and technological demands.

**Keywords:** Uzbek language, national identity, state language, modernization, education, digitalization, cultural heritage.

Language is the soul of a nation. It embodies culture, mentality, and historical memory. For centuries, the Uzbek language has endured trials and transformations — from periods of flourishing under great scholars and poets to times of suppression and neglect. However, the dream of seeing it shine as the official state language never faded. The independence of Uzbekistan in 1991 finally opened a new chapter in the history of the Uzbek language, giving it both legal protection and spiritual recognition. The Constitution of the Republic of Uzbekistan and the Law on the State Language clearly define the legal foundations and social importance of the Uzbek language. These documents mark the beginning of a systematic approach toward strengthening linguistic identity and cultural sovereignty.

Language is one of the most powerful instruments in uniting people and shaping national consciousness. The Uzbek language, as one of the oldest and richest languages of the world, reflects the wisdom, creativity, and traditions of the Uzbek