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Specific Aspects of Forming the Professional Competence of Students in The Process of Higher Education Based on The Innovation Approach: Detailed method and Result Analysis

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ABSTRACT

In this article, ideas about specific aspects of the formation of professional competence in students based on innovative approaches and different orders in creativity are explained for supporting higher education. This study reported a detailed method with result analysis. The essence of the main content of the article is professional approaches to higher education and give them examples. This study can become a reference for practitioners, government, and stakeholders relating to higher education.

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1. INTRODUCTION

The main essence of the state education policy implemented in the Republic of Uzbekistan is to educate a well-rounded person and a qualified specialist (Nabievich & Kholikovich, 2020). The content of this policy is covered by the "Education" Code of the Republic of Uzbekistan, as well as the "National Personnel Training Program", the general nature, important stages of the process of educating a competent person and a qualified specialist, the tasks facing the educational institutions operating within the continuous education system, their positive the factors guaranteeing the solution, the main principles ensuring the effectiveness of education and training are indicated. This situation allows for a consistent system, consistency, and interdependence of pedagogical activities at all levels.

Pedagogical higher education institutions make special efforts to educate qualified pedagogic specialists. In particular, nowadays, Tashkent State Pedagogical University is considered the main higher educational institution in training pedagogues for academic lyceums and special vocational colleges (Boboxo'Jayev, 2022). It is in this higher educational institution that works aimed at introducing future vocational education students to the basics of specialized sciences, ensuring their thorough integration, as well as the formation of professional skills and qualifications of future vocational education students, is being carried out.

In recent years, State educational standards have been developed, which ensure the improvement of the content of vocational education. In addition, attention was paid to the creation of study plans, improved study programs, textbooks, and manuals in the fields of vocational education.

The selection of subjects included in the training plan of vocational education teachers, their study material size, study material content, study time, theoretical study material size, practical education volume, and other organizations on a scientific basis, ensure the preparation of a vocational education student at the expert level that meets the requirements of the time.

Today, graduates of vocational higher educational institutions of pedagogy are successfully engaged in professional and pedagogical activities in vocational colleges and academic lyceums.

Many scientists have researched the issues of vocational training. In these works, various aspects and aspects of the problem of vocational education teacher training were highlighted, and this study will analyze some of them later.

V.D. Simonenko's work contains information on the content, forms, and methods of labor training, vocational training of students of IV-VIII grades, the introduction of technical, agricultural, and household service laborers to the representatives of this field, the nature, content, and development of their activities. Estimated plans of vocational orientation training for the products produced are presented.

2. METHODS

2.1. Historical Context

Traditionally, higher education has been content-driven, focusing predominantly on discipline-specific knowledge. However, as Breen & Lindsay (2002) have noted, the shift towards an increasingly complex, globalized job market demands more versatile skill sets.

2.2. Defining Professional Competence

Professional competence extends beyond academic knowledge. It encompasses a blend of skills, attitudes, and professional behavior. According to Epstein and Hundert (2002), it is the

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habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection for the benefit of the individual and the community being served.

2.3. Innovation in Higher Education

The term 'innovation' in higher education broadly refers to the introduction of novel ideas, methods, or approaches. It is not just about technology; it includes pedagogical strategies like problem-based learning, flipped classrooms, and experiential learning placements.

2.4. Innovation's Role in Building Competence

Several studies have underscored the role of innovative teaching methods in promoting professional competencies:

(i) Active Learning: Prince (2004) highlighted that active learning, where students engage actively with the content, enhances critical thinking and problem-solving skills.
(ii) Problem-Based Learning (PBL): Savery (2006) observed that PBL, an innovative approach where students learn through solving real-world problems, can significantly enhance professional skills like teamwork, communication, and analytical skills.
(iii) Technology-Integrated Learning: With the surge in digitalization, e-learning platforms, and online resources have shown potential in building professional competencies, especially adaptability and digital literacy.

2.5. Challenges in Implementation

While the promise of innovative approaches is widely acknowledged, there are challenges:

(i) Faculty Resistance: Not all educators are amenable or equipped to shift from traditional to innovative teaching methodologies (Ertmer, 2005).
(ii) Resource Constraints: Innovative approaches, especially technology-driven ones, can demand significant investments.
(iii) Assessment Difficulties: Assessing competencies, unlike knowledge, can be more abstract and complex (Biggs, 2012).

2.6. The Way Forward

Literature suggests a multi-pronged approach:

(i) Faculty Development Programs: Equip educators with the skills and mindset for innovative teaching (Steinert, 2005).
(ii) Institutional Support: Universities should prioritize innovation through funding, policy, and infrastructure.
(iii) Collaboration with Industry: To ensure the professional competencies developed align with market demands, universities should foster stronger ties with industries.

Several reports that have been published are in the following:

(i) The practice of the higher educational institution of pedagogy came to the following conclusions. It is necessary to include special courses and special seminars in the educational plans used in practice because they will make it possible to increase the level of professional training of future workers and vocational education students.
(ii) The role of educational and methodological complexes in improving the level of professional training of youth workers and vocational education teachers.
(iii) In the professional formation of a student of vocational education, modern education aimed at acquiring motivational qualities, intellectual competence, emotional, and volitional qualities, practical skills, and self-management abilities is a component of a

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comprehensive system that maintains the professional training of a student of vocational education at a high level. Noted that it is the basis for determining the pedagogical conditions and tools of the process of training a teacher of vocational education in higher educational institutions.

(iv) Scientific research on improving the preparation of students of vocational and vocational education based on the integration of the content of the subjects.

(v) Wide-ranging scientific research on the pedagogical conditions for the formation of students' inventive creativity on the example of the faculties of craft and vocational education and brought the necessary conclusions and recommendations.

(vi) Scientific research on the organization of independent education in the preparation of vocational education students.

(vii) Putting into practice the current scientific and technical development, advanced production experiences, the changes taking place in society and nature, national revival and development, market relations, and different ownership conditions, the worldview is broad in all aspects, creative. The problem of preparation of cocktails and vocational education was studied.

3. RESEARCH METHODOLOGY

3.1. Research Design

Research design is a strategic blueprint that aids researchers in collecting, analyzing, and interpreting observations. It's the architecture of the research, that guides the entire study's framework. Two primary research methods are qualitative and quantitative. Each provides different insights, and they can be used individually or in combination, known as mixed methods.

3.2. Qualitative vs. Quantitative

Qualitative Research is primarily exploratory and seeks to understand underlying reasons, motivations, and opinions. It captures the "how" or "why" of an issue. This method uses unstructured or semi-structured techniques such as interviews, focus groups, and observations. The outcomes are usually descriptive and non-numerical.

For the topic of "forming the professional competence of students based on the innovation approach," qualitative research might explore the lived experiences of students or teachers, seeking to uncover deep insights into their perspectives on innovative teaching methods.

Quantitative Research is used to quantify a problem. It employs structured techniques such as surveys, polls, or questionnaires. The data gathered is typically numerical and can be subjected to statistical analysis to validate or refute a hypothesis. In our topic's context, a quantitative approach could survey students on the efficacy of innovative teaching methods. This method might measure variables such as student grades, retention rates, or the time taken to achieve competence. Mixed Methods combines both qualitative and quantitative approaches. This method seeks to draw from the strengths of both techniques, allowing for a more comprehensive understanding of research problems. For instance, while a quantitative study could reveal a decline in student grades, a qualitative counterpart could explain why this decline is happening.

For our research on the formation of professional competence through innovative methods, a mixed-methods approach may be ideal. Quantitative data can offer statistical evidence of the impact of innovative teaching, while qualitative data can present a deeper understanding of student and faculty experiences.

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3.3. Research Site

The research site is pivotal in ensuring that the collected data is relevant and appropriately contextualized.

3.4. Selection Criteria

Choosing the right university or educational institution requires meticulous criteria. These could include:

(i) Historical Emphasis on Innovation: Institutions that have a track record of promoting or adopting innovative teaching methods.
(ii) Diversity of Student Population: This can offer varied perspectives on the impact of innovative methods.
(iii) Academic Reputation: A recognized university could provide credibility to the research.
(iv) Availability and Willingness to Participate: Some institutions might be more open to facilitating research than others.
(v) Geographical Location: This could play a role if regional or cultural insights are crucial for the study.

3.5. Description

For this illustrative study, this study considered two hypothetical universities - University A and University B (see **Figure 1**).

(i) University A: Located in an urban setting in New York, it boasts a student population of around 20,000. Known for its emphasis on tech and innovation, University A has been integrating AI tools and flipped classroom methodologies into its teaching for over a decade. The Business and Computer Science departments, in particular, have been pioneers in adopting cutting-edge educational technologies.
(ii) University B: Situated in a more rural area of Texas, it has a smaller student body of about 8,000. While it doesn't have the same tech emphasis as University A, it's renowned for its pedagogical research. The Liberal Arts and Education departments here have been experimenting with collaborative and project-based learning models.

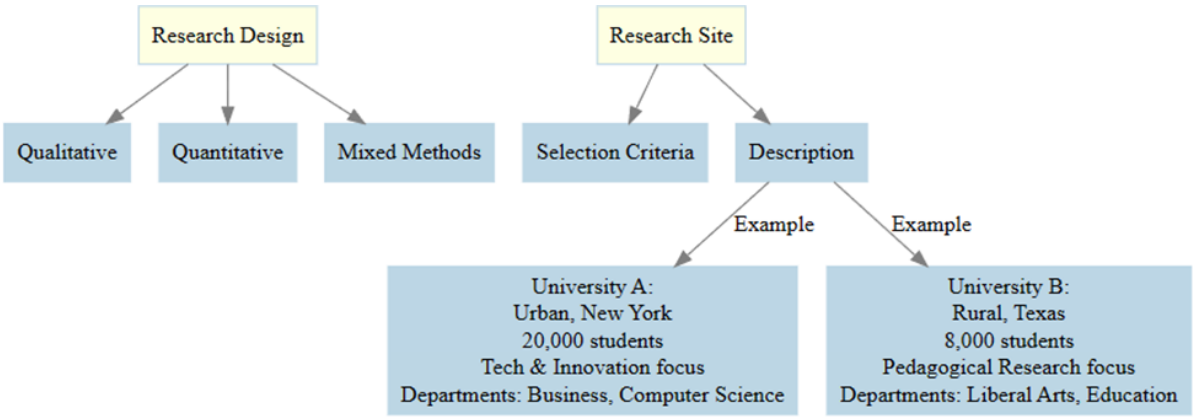

Figure 1. Research design and research site.

3.6. Data Collection

Data collection is an essential pillar in the research methodology process. By systematically gathering and analyzing information, researchers can draw informed conclusions to answer their research questions. This section elaborates on primary and secondary data collection techniques relevant to studying the impact of innovative methods in higher education.

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3.7. Primary Data

Primary data refers to original data gathered specifically for the research at hand. Unlike secondary data, which already exists, primary data is tailored to address specific research objectives.

3.8. Interviews

Semi-structured interviews serve as a bridge between structured and unstructured interviews, offering flexibility and depth. When exploring perceptions about innovative methods in higher education:

(i) Faculty Members: Engaging faculty members provide insights into the pedagogical reasoning behind implementing innovative methods. They can shed light on the challenges faced, the rewards reaped, and the evolution of these methods over time.
(ii) Administrators: These individuals play a pivotal role in institutional decision-making. Interviews with administrators can uncover the strategic motivations and broader institutional perspectives surrounding the adoption of innovative methods.
(iii) Students: As primary beneficiaries, students offer firsthand insights into the effectiveness of these methods. Their perceptions speak directly to the end goal: enhanced professional competence.

Questions might include:

(i) "How do you define innovative teaching methods in your context?"
(ii) "What motivated the incorporation of innovative methods in your courses or institution?"
(iii) "Can you provide an instance where an innovative method profoundly impacted student learning?"

3.9. Focus Groups

Focus groups are small-group discussions guided by a facilitator. For our topic:

(i) A diverse group of students, segmented by year, course, or department, can discuss their collective experiences.
(ii) Scenarios or short video clips of innovative teaching methods can be presented as prompts to stimulate discussion.
(iii) Questions might explore whether these methods enhanced their engagement, understanding, or skills relevant to their future professions.

3.10. Observations

Observational research involves gathering data through direct or participant observation.

(i) Direct Observation: A researcher could sit in selected physical or virtual classrooms, noting the teaching techniques employed, student reactions, and the general dynamics of the class.
(ii) Participant Observation: Here, the researcher actively participates in the educational process, either as a guest lecturer or a student, to immerse in the learning experience.

Both methods can provide a rich, contextual understanding of how innovative methods play out in real time.

3.11. Secondary Data

Secondary data utilizes existing information to supplement primary data, offering broader context or validation.

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3.12. Institutional Documents

Documents such as syllabi, teaching guidelines, and course materials can provide:
(i) A historical perspective on curriculum evolution.
(ii) Insight into the formal stance of the institution on innovative teaching.
(iii) Benchmarks to assess the alignment between prescribed and actual teaching methods.

3.13. Previous Research

Reviewing academic papers, case studies, or conference proceedings can:
(i) Offer a comparative framework for your findings.
(ii) Highlight gaps in the current body of knowledge.

Provide context, especially if the previous research spanned different geographical locations, institutions, or cultural settings.

3.14. Sampling

Sampling is about selecting a subset of the population that provides a representative overview of the entire group. It's critical to ensure that the sample reflects the broader population's characteristics to make informed generalizations (see **Figure 2**).

3.14.1. Purposeful sampling

Purposeful sampling involves selecting individuals who meet specific criteria. For our topic:
(i) Participants could be those who have undergone courses with significant innovative teaching components.
(ii) Faculty members who have actively integrated or resisted innovative methods can be chosen for diverse perspectives.

3.14.2. Sample size

Determining the sample size is crucial. While larger samples offer more statistical reliability, they might not always be feasible due to time or resource constraints. For interviews, between 15-30 participants might suffice for a qualitative study, ensuring a diverse representation. For focus groups, 5-8 participants per group, with multiple sessions, can capture varied student experiences. For observations, the number might vary based on the breadth of methods or classes under examination.

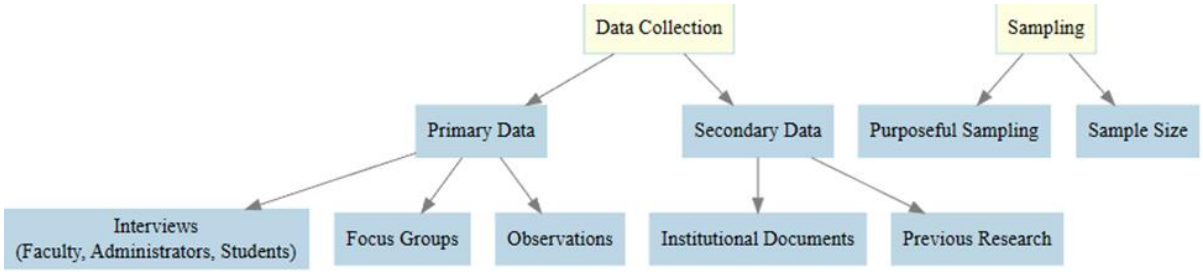

Figure 2. Data collection process.

3.15. Data Analysis

In the realm of academic research, data analysis is a pivotal stage. Here, raw data, a seemingly chaotic array of figures and words, metamorphoses into coherent findings. It's the phase where the initial hypotheses and research questions are tested against the evidence

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gathered. This chapter delves into the distinct techniques used for analyzing both qualitative and quantitative data.

3.15.1. Qualitative data

Qualitative research seeks to understand phenomena from the perspective of the participants. It's subjective and often explorative, aiming to gather an in-depth understanding of human behavior and the reasons behind such behavior. Here's how qualitative data, once collected, is processed and analyzed:

3.15.2. Transcription

Before analysis begins, spoken data must be converted to textual data. Transcription is this process.

(i) Quality: Ensure that transcriptions are accurate. Even minor errors can distort meaning.
(ii) Confidentiality: To maintain the confidentiality of respondents, pseudonyms or code names should replace real names.
(iii) Annotations: Non-verbal cues, such as pauses or emphatic tones, are also crucial. They can be annotated to provide richer context.

3.15.3. Coding

Coding is the cornerstone of qualitative analysis. It involves breaking down data into smaller chunks and tagging those with a keyword or code. The aim is to transform the sprawling textual data into organized, manageable categories.

(i) Open Coding: Initially, one might start with open coding, creating codes spontaneously as one sifts through the data.
(ii) Focused Coding: As patterns emerge, one can switch to focused coding, refining and consolidating initial codes into more concentrated categories.
(iii) Tools: There are several software tools like NVivo and ATLAS.ti designed to aid in this process, especially when dealing with vast amounts of data.

3.15.14. Thematic Analysis

Post coding, thematic analysis commences. Here, related codes are grouped under overarching themes, highlighting patterns and stories in the data.

(i) Pattern Recognition: The key is recognizing patterns or recurring elements across data sets. For example, recurring mentions of "interactive sessions" or "hands-on experiments" might lead to a theme titled "Experiential Learning".
(ii) Narrative Construction: Beyond just identifying themes, it's about weaving a narrative around them. What story does the data tell about innovation in teaching or its impact on student competence?

3.16. Quantitative Data

Quantitative data analysis is about dealing with numbers. It's structured and statistical, aiming to quantify the data and generalize results from the sample to the larger population.

3.16.1. Descriptive statistics

These are basic functions that provide a snapshot of the main aspects of the data. They don't allow for conclusions beyond the analyzed data but can give a comprehensive overview.

(i) Measures of Central Tendency: Mean (average), median (middle value), and mode (most frequent value).

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(ii) Measures of Dispersion: Range, variance, and standard deviation – these measure the spread of data.
(iii) Visual Aids: Histograms, pie charts, and bar graphs can be employed to provide a visual summary.

For instance, if 70% of students in the sample prefer innovative methods, that's a descriptive statistic.

3.16.2. Inferential statistics

While descriptive statistics describe data, inferential statistics help make predictions or inferences about a population based on a sample.

(i) Hypothesis Testing: Tests like t-tests or ANOVA can assess whether observed differences in sample data are significant for the larger population.
(ii) Correlation and Regression: These assess relationships between variables. For instance, is there a significant correlation between the use of innovative methods and heightened student competence?
(iii) Confidence Intervals: These give an estimated range of values likely to include an unknown population parameter. For example, the confidence interval might show that there's a 95% chance the true percentage of all students preferring innovative methods lies between 68% and 72%.

4. RESULTS AND DISCUSSION

The quantitative findings are the following:

(i) Preference for Innovative Methods: 78% of students expressed a preference for innovative teaching methods over traditional lectures.
(ii) Perceived Improvement in Skills: 83% believed innovative methods enhanced their professional competencies significantly.
(iii) Engagement Levels: Courses that employed innovative teaching methods reported a 25% increase in student engagement.

The qualitative insights are the following:

(i) Interactive Learning: Students frequently cited interactive workshops and discussions as the most beneficial innovative methods.
(ii) Hands-on Experience: Real-world problem-solving tasks were commended for providing practical exposure.
(iii) Digital Tools: E-learning platforms, especially simulations, were praised for enhancing adaptability and digital literacy.

There are several important points gained:

(i) The Significance of Innovative Approaches: The overwhelming preference for innovative methods underscores their significance in contemporary higher education. This finding aligns with Prince's (2004) assertion that active engagement fosters critical thinking and problem-solving skills. The high correlation between perceived skill improvement and innovative teaching methods further solidifies this viewpoint.
(ii) Understanding Student Preferences: Interactive learning emerged as a favorite, which suggests that students appreciate being active participants in the learning process rather than passive recipients. This mirrors the sentiments shared by Savery (2006) about the efficacy of problem-based learning. Additionally, the emphasis on hands-on experience indicates a strong desire among students to apply theoretical knowledge practically. This

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validates the real-world applicability of the skills being acquired through these innovative methods.

(iii) E-Learning and Digital Platforms: The positive reception of e-learning platforms and digital tools highlights the evolving nature of learning. Digital literacy is becoming an essential professional competency. Thus, the integration of these tools in teaching not only caters to present needs but also prepares students for a digitized professional environment.

(iv) Challenges and Limitations: Despite the positive reception, there were challenges highlighted. Some students felt that their institutions' rapid shift to digital methods, particularly during the initial stages of pandemic-induced online learning, was not smooth. They lamented the lack of training and felt overwhelmed. This resonates with Ertmer's (2005) observations regarding potential resistance or challenges, even amidst innovation.

(v) Implications and Future Research: Given the clear inclination towards innovative approaches, higher education institutions need to recalibrate their strategies. Investing in faculty development programs, as suggested by Steinert (2005), can be an initial step.

Additionally, with the significant focus on digital tools, researching effective online pedagogical strategies becomes imperative. A deeper dive into specific digital platforms, their effectiveness, and their role in building professional competence might provide valuable insights.

The analysis of the above and many similar cases allows us to summarize the experience of training teachers of vocational education in higher educational institutions of pedagogy and draw the following conclusions:

(i) To improve the training of vocational education students, start with the selection of applicants, their interests, inclination, and character. introduction of entrance exams in specialized subjects that allow taking into account the professional orientation;

(ii) To expand the scope of training of vocational education providers, that is, to ensure compatibility with important sectors of the national economy;

(iii) Stratification of vocational education students taking into account their interests and gender. This problem is of particular importance in the professional-pedagogical training of the teachers of vocational education in various directions.

(iv) Improvement of educational plans and programs based on scientific and technical achievements and advanced, promising production technologies;

(v) Extensive use of advanced pedagogical technologies that activate students in educational work;

(vi) Appropriate organization of students' independent creative abilities with other elements that ensure content;

(vii) Ensuring the integration of information technologies in the educational process in the training of vocational education students;

(viii) To put an end to repetitions by integrating study subjects that complement, expand, and deepen each other as a single science, to form comprehensive and perfect knowledge and professional methods for future vocational education students, to organize and organize the higher education level of the continuing education system. revision in terms of content should be carried out following the requirements of the National Program on Education and Personnel Training. It is appropriate to carry out such a review to integrate the content of education and to adapt the methods of science to the conditions of higher education.

Systematicity and sequence in education should be interpreted as an effective factor of the interdependence of concepts, laws, and theories of various academic subjects because the

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integration of these subjects allows the formation of generalized knowledge and the deepening and enrichment of their content.

The process of formation of generalized knowledge, skills, and abilities in students requires regular and goal-oriented pedagogical guidance and supervision by teachers. One of the effective means of such leadership and management is the establishment of the integration of emerging disciplines as a didactic basis for the formation of generalized knowledge, skills, and abilities.

In integration, first of all, in pedagogical integration, the "important component" that gives it purposefulness and meaning plays a decisive role. The integral connection between the process and the result is another important feature of the integrative whole. Based on the analysis of the literature, in the assessment of the relationship between the procedural and the resulting aspects of integration. Three positions can be distinguished.

In the first position, integration is the process of restoration of the whole. According to V.N. Kuzmina, the concept of integration describes the process and mechanism of unification, the acquisition of integrative qualities of a whole or complex. To this approach, the concept of a system refers to the object form of the whole, and the concept of integration refers to the process leading to it. This point of view is widespread. In 22 of the 30 definitions obtained by the random selection method, the word integration means a process.

Another point of view advocates integration as an outcome. Proponents of this idea explain that, for example, integration means "harmonization, order, and stability of the system." Supporters of the third approach understand integration as a process and the result of the restoration of the whole: integration - "the concept of the theory of systems, which means a state of the interdependence of separately differentiated parts, as well as a process that leads to such a state", integration - "the process and result of creating an integral relationship" and others.

The supporters of the first position are the majority, while the other is supporters of the third position. In our opinion, water is not one of the probabilistic views of reality that is compatible with existing evidence. The last position most adequately reflects the state of affairs in the integrative field.

(i) INTEGRAL QUOTE consists of the non-additive sum of the properties of the given plurality of pedagogical phenomena that are not imagined and observed, which constitute individual overdetermination (V.P. Kuzmin).

(ii) By INTEGRAL INFORMATION, we mean the property that allows interacting components to access integrated communications. This position is close to the current point of view in philosophical and pedagogical literature. In most cases, both parties in the relationship have these properties. Thus, in the framework of engineering-pedagogical education, pedagogical and technical knowledge is determined by their common feature - the ability to perform mutually defined functions in the implementation of engineering-pedagogical activities.

(iii) INTEGRAL PART - a serious part of the whole, without which the whole cannot be imagined. Unlike accidental (non-serious) parts that do not represent the essence of the whole, and therefore have a variable character, integrative parts are considered necessary, invariant attributes of the whole, without which the whole cannot occur as a specific quality. For example, there may be different modifications of the lesson: lesson lecture, dare - conversation, etc. No matter how different they are, they always appear as "things".

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However, if it is removed from its content of education and training, which is an invariant and serious part of the pedagogical process as a whole, it cannot find. Several points are important:

(i) INTEGRAL EFFECT (effectiveness) expresses the degree of influence of the integrated potential of the cooperating components on the "subject of education - person". The integral effect can be "plus" (positive) and "minus" (negative). Sixfold integration, which takes into account the totality of external and internal conditions, gives a "plus" effect. A negative effect occurs when the principle of optimality is violated, for example, when pedagogical integration does not take into account the age and individual characteristics of students.

(ii) INTEGRAL POTENTIAL defines the limits of the possibility of this or that event, subject, or process to perform this or that integration function. There are no systems that are incapable of solving integrative tasks: integration is a general and universal phenomenon. At the moment, it is impossible not to create differences in the level of their readiness to carry out such activities - for example, it is clear that the integrative capabilities of systems such as a pile of stones and a technical aggregate, a biological mechanism, and a human, a traditional lesson of production education and an integrative lesson of production education are not the same.

(iii) The concepts of INTEGRATIVE MAK.SAD, INTEGRATIVE ACTIVITY, INTEGRATIVE WORK can be seen in the works of V.D. Semenov, and V.I. Zagvyazinsky. Integrative goal is the anticipated result of integrative activity, which in turn consists of a dynamic system of motives and tasks, operations and actions, methods and means, technologies and methods that help to implement the integrative goal. Outside of the operational interpretation of activity and purpose, the former includes the latter. Integrative work is the process of direct implementation of integrative activities for the performance of specific tasks.

It is known that today the educational paradigm is changing in the developed and developing countries of the world. Based on the Asian model of education, the educational process is focused on the development of the skills of the practical application of the knowledge gained from theoretical knowledge and the formation of independent learning skills in students based on information technologies. The Swiss World Economic Forum has announced the ranking of countries with the fastest-growing economies. Based on the World Bank's "Global Economic Development" data, Uzbekistan ranked 5th among the countries with the highest annual growth rate in the period from 2014 to 2017.

The perspective of reforms in Uzbekistan is based not only on the experience, traditions, and values of the country but also on the use of advanced international foreign experience. In our country, special attention is being paid to the fundamental improvement of the higher education system, the fundamental revision of the content of personnel training based on modern requirements, the training of competitive highly educated specialists, and the improvement of the management of innovative activities in the higher education system in the development of the industry at the level of world standards.

In this regard, the creation of a national system of electronic educational resources in the main fields of knowledge, access to the world's educational resources and the improvement of this infrastructure, the use of the world's and national electronic educational resources through information, and communication technologies in the educational process, the problems of developing the material and technical base of educational institutions and network infrastructure in the higher education system is relevant. Decree No. PF-4947 of the President of the Republic of Uzbekistan dated February 7, 2017 "On the Strategy of Actions

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for Further Development of the Republic of Uzbekistan" and Decision No. PQ-2909 of the President of the Republic of Uzbekistan dated April 20, 2017 "On Measures to Further Develop the Higher Education System".

This research serves to a certain extent in the implementation of the issues that need to be implemented in the field of education today, the reform of the higher education system, the need for the wide use of new pedagogical and innovative technologies in education, and other regulatory legal documents related to this activity. Analysis of the literature on the subject There are scientific works devoted to the issues of improving the education system, theoretical and methodological foundations of innovative management, as well as the methods of using information technologies in the education system. In his time, F.I. Peregudov made a worthy contribution to the field of innovative activity, to the search for solutions to current problems related to information technologies in education.

To study some theoretical aspects of the problem of evaluating the effectiveness of education from a socio-economic point of view, K. Kh. D.N. Rakhimova, the issues of improving the management of the higher education system in modern conditions were studied and covered in research works, works, and articles of mature scientists from Uzbekistan such as B. Yu. Khodiev. At the same time, it should be noted that experts and scientists have not paid enough attention to the issues related to the establishment and development of scientific and innovative activities in higher educational institutions. This situation determines the need to conduct scientific research in this direction. Research methodology the problems of improving innovative activities in the higher education system based on information technologies were clarified. Searched for troubleshooting tips. Taking into account that the quality of innovative projects implemented in the higher education system today depends on the potential of personnel, it was carried out with the help of expert evaluations as a quantitative assessment of personnel evaluation in higher education.

Based on the collected data, comparative and empirical methods of economic analysis - generalization, grouping, observation, and systematic approach - were effectively used. Analysis and results Today, the amount of research devoted to the study of the impact of positive and negative factors in evaluating the expected results of innovative projects implemented in the higher education system is extremely small. As a result of scientific research on this issue, we have considered that the effectiveness of innovative projects depends on project management. Based on this, we determined efficiency by building a successful project team. An effective innovation team must understand its time-bound task and take full responsibility for its execution. The team should develop clear team criteria. This similarity is mainly determined by the purpose of the project. The community should be directed from the outside. Focusing on the project's bottom line helps keep the team cohesive without becoming dangerously disconnected from the organization's broader strategy.

5. CONCLUSION

In the journey through higher education, the ultimate aim extends beyond mere academic achievements; it encompasses the holistic development of students, preparing them to thrive in their chosen professions. This research on "Specific Aspects of Forming the Professional Competence of Students in Higher Education Based on the Innovation Approach" has provided pivotal insights that could redefine contemporary educational paradigms. The evident shift from traditional, content-centric education to a more dynamic, skill-focused, and innovative approach is not just a trend but a necessity. With the ever-evolving challenges and demands of the 21st-century professional landscape, students require a robust set of competencies that span critical thinking, adaptability, problem-solving, and digital literacy.

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This research has clearly illustrated that innovative teaching methods, be it problem-based learning, interactive sessions, or technology-driven platforms, hold the promise to nurture these competencies effectively. However, the pathway to integrating innovative methods into the very fabric of higher education isn't devoid of challenges. From resource constraints to adaptability hurdles faced by both educators and students, there's a spectrum of issues to address. Yet, the overwhelming preference of students for innovative approaches, coupled with the tangible benefits in terms of skill enhancement, makes this endeavor undeniably crucial. Institutions of higher learning now stand at a crossroads. They have the choice to either adhere to time-tested yet increasingly obsolete methods or embrace the future by integrating innovation into their teaching approaches. While the former might offer the comfort of familiarity, only the latter ensures that graduates are not just degree holders but competent professionals ready to navigate and contribute to the world. In closing, the research underscores a salient message for educators, policymakers, and stakeholders in higher education: Innovation in teaching is not just a tool but an imperative. As this study progresses further into this century, it is these innovative approaches that will determine the relevance, efficacy, and impact of higher education on professional competence.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

7. REFERENCES

Biggs, J. (2012). What the student does: Teaching for enhanced learning. *Higher Education Research and Development, 31*(1), 39-55.

Boboxo'Jayev, R. H. (2022). Learning foreign languages online. *Science and Education, 3*(6), 840-845.

Breen, R., and Lindsay, R. (2002). Different disciplines require different motivations for student success. *Research in Higher Education, 43*, 693-725.

Epstein, R. M., and Hundert, E. M. (2002). Defining and assessing professional competence. *Jama, 287*(2), 226-235.

Ertmer, P. A. (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration?. *Educational Technology Research and Development, 53*(4), 25-39.

Nabievich, M. M., and Kholikovich, R. K. (2020). The Importance and Role of" Safety of Life Activities" Subject in Higher Educational Institutions. *JournalNX 2020*, 9-13.

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education, 93*(3), 223-231.

Savery, J. R. (2015). Overview of problem-based learning: Definitions and distinctions. Essential readings in problem-based learning: *Exploring and Extending the Legacy of Howard S. Barrows, 9*(2), 5-15.

Steinert, Y., Cruess, S., Cruess, R., and Snell, L. (2005). Faculty development for teaching and evaluating professionalism: from programme design to curriculum change. *Medical Education, 39*(2), 127-136.

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