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METHODOLOGY FOR INTEGRATED TRAINING OF SPECIALISTS IN THE SPACE OF CONTINUOUS SPECIALIZED EDUCATION

Umarov Lutfillo Murodilloyevich
Associate Professor, Head of the Department of Pedagogy, Psychology
and Educational Management, Kashkadarya Regional State Educational Service (PhD),
Email: Lutfulla77@gmail.com, Tel: (91) 453-88-99

Abstract
This article scientifically substantiates the methodology for integrated training of specialists within the Continuous Specialized Vocational Education (CSVE) space. The study examines in detail the purpose of the CSVE space modeling and creation methodology, its fundamental principles, and three directions of organizational-pedagogical conditions: vertical, horizontal, and parallel integration models. The structure, goals, expected outcomes, and performance indicators for each integration model are presented. Furthermore, a training model based on an individual educational trajectory and its structural components - professional-content, directing, regulatory-control, and motivational components of the educational route - are described. Research findings scientifically confirm the effectiveness of integrated training within the CSVE space and its significant role in the professional development of specialist-educators.

Keywords: Integrated training, vertical integration, horizontal integration, parallel learning, individual educational trajectory, CSVE space, organizational-pedagogical conditions, multifunctional specialists.

Introduction

The goal of training new specialists who possess innovative thinking and a creative professional approach to solving practical problems necessitates the development of a methodology for modeling continuous specialized vocational training on the basis of unified scientific approaches, principles, goals, tasks, and mechanisms for their implementation. Specialized studies, the practice of training specialists in vocational education institutions, self-analysis, and the analysis of graduates' activities have demonstrated that the actual level of graduate training does not fully satisfy the needs of society and the student's personality.

Consequently, the task of creating an optimal and effective methodology for modeling the CSVE space became urgent. Within this context, the space serves as a cumulative (accumulative) form of educational activity, ensuring holistic enrichment of creative potential and continuous professional growth of the participants in the educational process. The author considers continuity, consistency, integration, and variability as the fundamental principles for implementing the methodology for modeling and designing variable content.

Contemporary pedagogy features a diversity of paradigmatic approaches as the general methodological basis for vocational education: conservative-educational, liberal-rationalistic, humanistic-personal, and methodological. Multi-paradigmatism (polyparadigmatism) determines the leading theoretical approaches and the methodology for their application in innovative educational practice. The strategic goal of CSVE space modeling is to train highly qualified, multifunctional specialists capable of obtaining professional education at multiple levels within a reduced timeframe, thereby significantly improving the quality of vocational training.

Research Methodology

Three core objectives were established for the methodology of integrated specialist training in the CSVE space. The first objective is the development and implementation of models for the continuous training of specialist-educators as the primary outcome and key educational resource of the CSVE space. The second objective is the support, preservation, and dissemination of CSVE model examples. The third objective is the enhancement of the specialist's personal potential and the formation of an innovative paradigm of CSVE based on self-development and self-formation.

Two main directions of joint activity forms were identified within the research: first - contractual relations between vocational education institutions of different levels while maintaining the legal independence of each; and second - the structural merger of vocational education institutions of different levels into a multi-level educational institution as a single legal entity. The CSVE space modeling methodology provides for the implementation of general principles based on mitigating risk situations, preserving legal independence, and creating conditions for freedom of choice for educational organizations and individuals.

Within the methodology, the author identifies the following main principles for implementing the methodology for modeling and designing variable content: continuity, consistency, integration, and variability. The principle of continuity ensures the unbroken acquisition of vocational knowledge, skills, and professional values across all levels of the educational system. The principle of consistency demands the logical and sequential organization of educational content. Integration ensures the meaningful connection of content across disciplines and specializations, while variability guarantees the availability of multiple educational pathways for learners with diverse needs and aspirations.

Analysis and Results

Vertical Integration Model. Within this model, consistent specialized professional training is offered through the framework of the 'Specialized Lyceum - Higher Education Institution' model. The formation of a vertical model for specialist training contributes to: the development of the educational institution's goals; the formation and expansion of the CSVE space; the continuity and integration of educational programs; more comprehensively satisfying students' needs in selecting vocational educational programs; and the rapid adaptation of graduates to the dynamically developing conditions of professional activity.

Performance indicators for specialist training within the vertical integration model include the following: ensuring the continuity of specialized fundamental training and the direction of

vocational education; expanding the scope of innovation in the CSVE domain; enhancing the general and professional culture of students; and the degree of integration of the educational institution's educational programs. The vertical integration model is particularly effective for establishing early specialization pathways, where students at the lyceum level begin their specialized preparation, which then deepens and expands at the higher education level, creating a seamless developmental arc.

Horizontal Integration Model. This model is implemented within a single level of vocational education and possesses distinctive characteristics. It is realized through two forms: 'internal horizontal integration' - where students simultaneously master two specializations - and 'external horizontal integration' - which unites same-level vocational education institutions for the purpose of creating a broad foundation for obtaining various specializations.

The methodology of internal horizontal integration enables its application in the practice of modeling multi-stage higher education institution spaces. Within this framework, students study for 1.5 years using an integrated curriculum that combines 80% of the content. Advanced and additional educational materials are mastered through individual plans. Within this model, 12–25% of curricular material may be independently mastered through individual plans or with a designated assessment form. This approach grants students a significant degree of academic autonomy while maintaining high standards of content coverage.

The implementation of the horizontal integration model contributes to the training of a new type of specialist equipped with fundamental humanitarian training, innovative thinking, and broad-based specialized professional competencies. The content and process of education jointly form a holistic relationship with future professional activity. The educational experience is designed to bridge theoretical knowledge and practical application, ensuring that graduates can seamlessly transition into complex professional environments requiring multidisciplinary competencies.

Parallel Integration Model. Organizational-pedagogical conditions for modeling the structure and content of parallel learning require creating educational-methodological support for full-time student training at the higher education institution and parallel distance learning programs at other levels of vocational education. The organization of parallel learning is based on six stages: (1) conducting a SWOT analysis of the complete set of educational-methodological materials for each specialization; (2) comprehensively examining the possibilities for mutual influence; (3) identifying common core blocks, cycles, and modules and creating integrative modules; (4) examining the possibility of continuously updating content and conditions; (5) identifying common and differentiated quality indicators that can be integrated; and (6) combining the principles of composition, decomposition, and hierarchy.

Content integration is directed toward achieving global tasks (ensuring fundamental training), domain-specific tasks (ensuring quality training for each parallel specialization), and meeting local needs. Vocational education at another level may correspond to the direction (specialization) of the program being implemented or may have a different orientation. Programs with equivalent orientations are understood as core educational programs that are similar in content (55–60% or more). This overlap enables significant time savings and reduces the overall burden on students, making the attainment of dual specializations both feasible and educationally enriching.

Individual Educational Trajectory Model. This model ensures maximum individualization based on the student's free choice of the core professional training content, additional educational services, and the pace of mastering the specialization. The professional training technology encompasses the following mutually conditioned and interrelated components: the educational route, the probable educational trajectory, and the individual educational trajectory. The educational route defines the path the student must traverse to master the content of professional training. The probable educational trajectory defines the characteristics of the student's development for the purpose of acquiring new competencies. The individual educational trajectory, incorporating open (distance) learning, enables the individualization of the future specialist's process of professional development.

The structural components of the educational trajectory include: (1) the professional-content component - encompasses the characteristics of the content of students' professional activity, options for selecting methods of professional activity and behavior, and the dynamics of mastering professional competencies; (2) the directing component - provides students with the conditions for selecting individual educational trajectories; (3) the regulatory-control component - ensures the regulation and self-management of the educational process; and (4) the motivational component - stimulates cognitive activity and creativity, promotes reflection, and creates situations for achieving success.

The effective implementation of this methodology requires the full utilization of available resources within the educational institution. A unique educational-material base must provide educational sessions across various specializations and implement advanced educational programs in specialized psychological-pedagogical training. Additionally, the presence of a strong research base - specialized councils, post-graduate programs, research laboratories, and scientific societies for students - represents one of the critical factors determining the effectiveness of integrated training in the CSVE space.

Conclusion

The methodology for integrated training of specialists in the continuous vocational education space leads to the following generalized conclusion: students are given the opportunity to optimize individual professional development programs based on freedom of independent choice. The combined application of vertical, horizontal, and parallel integration models serves the development of broadly competent, innovatively thinking specialist-educators who are prepared to work effectively across multiple professional fields.

The individual educational trajectory model enables the student to engage in lifelong educational activity and creates conditions for educational flexibility. Various structures ensuring continuity in vocational education are modeled within the educational space. The practical application of this methodology contributes effectively to improving the quality of vocational education, developing the professional mobility of graduates, and advancing the educational system as a whole. The methodology represents a significant step forward in creating genuinely adaptive educational environments that respond to the complex and evolving demands of contemporary professional life.

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