Pakhomova N. H.

THE PRINCIPLES AND CONDITIONS FOR INTEGRATION OF THE MEDICAL, PSYCHOLOGICAL AND PEDAGOGICAL COMPONENTS OF PROFESSIONAL TRAINING OF SPECIAL EDUCATION TEACHERS

Training qualified staff as a targeted and consistent activity of the state is discussed in legislative, executive, judicial, informational, and other spheres, which are concerned with the creation of social and economic, political, organizational, and legal conditions for the integration of the information from various areas of research and the development of the intellectual and spiritual potential of the society.

Numerous works on the philosophical aspects of integration (V. Bondarenko, F. Vashchyuk, S. Klepko, et al.), its didactic (S. Honcharenko, I. Kozlovska, O. Savchenko) and psychological (I. Bekh, T. Yatsenko) foundations are evidence to the topicality of the integrative trends. Theoretically and methodologically, the integration of knowledge in the context of higher education was discussed in the works by A. Byelyayeva, V. Bespalko, S. Honcharenko, Yu. Zhydetsky, V. Ilchenko,Ya. Kmit, S. Klyepko, Ye. Kovalenko, O. Shevnyuk, et al. The training of speech pathologists is studied in a fundamental research undertaken by Ukrainian scientists, namely V. Bondar, S. Myronova, Yu. Pinchuk, T. Sak, V. Synyov, Ye. Synyova, V. Tarasun, L. Fomicheva, O. Khokhlina, and M. Sheremet. Despite a large number of works on the problem, the validation of the principles and conditions for integrating the components of training special education teachers have not been investigated properly, which creates a need for a more detailed analysis of how the integration of medical, psychological, and pedagogical knowledge can be achieved.

In order to determine the prerequisites for the effective integration of medical, psychological, and pedagogical knowledge, the complexity and multifaceted nature of correctional education have to be acknowledged. Therefore, the aim of the article is to

define the principles of and the conditions for the integration of the medical, psychological, and pedagogical components of training special education teachers.

The Encyclopedia of Education defines the integrative approach as an approach leading to the integration of the content of education, i.e., a meaningful combination of its elements into a unity. The application of the integrative approach in education results in the acquisition of comprehensive knowledge at different levels: the knowledge of the reality and nature in the light of various educational fields, disciplines, content modules, and topics [2].

The integration of medical, psychological, and pedagogical components of training special education teachers is understood as a dynamic, continuous, and controversial process, which (a) requires scientific prognostication, attention to motivation and the specific parameters and structural organization of knowledge and (b) involves appropriate forms, methods, and means of teaching. Knowledge integration, as a rule, is related to generalization, consolidation, and concentration, which are needed to improve and facilitate the storage, transmission, acquisition, and use of this knowledge, and to its classification and systematization, interpenetration of various methods of cognition and modeling, as well as the reproduction of object integrity.

To determine the defining factors of the creation of the system of the principles of medical, psychological, and pedagogical components integration, it is necessary to reveal the interrelation between pedagogical education and the constituents of the professional competence, which are its essential part.

The implementation of integration into the educational process and the development of integrated courses depend on the conditions of integration. According to V. Mushtuk, the capacity for the synthesis of scientific knowledge in the process of merging academic disciplines is defined by the didactic conditions of integration. The existence of the common goals and tasks of learning, adherence to the uniform research principles and methods, existence of the common logic of the learning material acquisition are among them [3].

Yu. Dik, A. Pansky and V. Usanov maintain that the successful integration of the academic courses is possible under the following conditions [1]: the presence of common research objects; the use of the same or similar methods of cognition by the disciplines to be integrated; the acknowledgement of the fact that knowledge in natural sciences and specialization courses is acquired on the basis of the same theories and regularities; and the use of similar learning activities in the classroom and during practice and on-the-job training at the work place.

Among the conditions for integration, also referred to as integrators, can be the natural scientific and socioeconomic worldview and the laws of universal regularity. They allow the integration of the disciplines that belong to different fields: history, economic geography, legal relations (social sciences); physics, biology, chemistry (natural sciences); mathematics, information technology, cybernetics (algorithmic procedures) [1].

Identification of psychological and pedagogical conditions for integrating the medical, psychological, and pedagogical components of training special education teachers in higher educational establishments relies on the research that describes the foundations of the so-called "resource approach" in the educational science. The latter is a set of objective conditions and means necessary for the realization of the potential of the subject of leaning – the student (T. Davydenko, T. Shamovs, I. Yakimanska, et al.) [5; 6]. The resources can be external (the means and conditions of the learning environment) and internal (the individual resources of every student). The main principle of the realization of the resource approach is the assurance of the individual trajectory of each learner's development.

Among the pedagogical conditions of organizing integration in higher education on the basis of the resource approach is the activation of the emotional and value attitude of prospective speech pathologists to their learning on the basis of reflection (T. Davydenko, Yu. Kulyutkin, H. Sukhobskya, T. Shamova) [5].

To ensure the efficiency of the complex system of the educational impact on the training of prospective special education teachers in the context of credit-module system and the integrational nature of learning, it is important to theoretically determine the leading pedagogical conditions that, when implemented into the educational process of higher educational institutions, will also contribute to the enhancement of the consistency and integration of the components of university training in general. The following pedagogical conditions can be distinguished:

1.Multi-factor diagnostics of the students' individual psychological features (their capability for actualization, learning, research, self-evaluation, self-regulation, and self-organization) in terms of motivational, organizational, procedural, evaluational, and analytical and prognostic aspects.

2. The enhancement of professional orientation and individualization of the integration of pedagogical, psychological, and medical components in higher educational pedagogical institutions on the basis of task-based learning approach.

3. The implementation of active forms, methods, and means of learning aimed at the development of professional knowledge and skills that provide for the realization of the complex system of educational impact on the processes of pedagogical, psychological, and medical components integration.

The creation of the afore-mentioned pedagogical conditions in the educational process of the higher educational institution ensures the efficacy of integrating the pedagogical, psychological, and medical components in the course of university training as a result of proper functioning of the pedagogical system.

The integration of the content of education is intertwined with the educational process organization and management. Integrative links should not interfere with the logic of the educational process; they have to be natural, be realized through a range of forms, and based on a carefully selected learning material [4]. Only similar or close objects (areas and fields of knowledge and practical activity) can be integrated, whereas knowledge acquisition should be based on the same theories and regularities.

The awareness and implementation of the principles of the organization of the integration of pedagogical, psychological, and medical components in the educational process gives the opportunity to organize this process according to its objective laws, to consciously determine its goals, substantiate and, then, augment them, as well as to select the forms and methods of teaching that would correspond to the goals set.

Developing such principles, we have to bear in mind that the integration of professionally oriented disciplines in the educational process of the higher educational establishment is an essential feature of special education training in accord with the State Standard. Thus, before reviewing the principles of the effective implementation of integrative trends in higher education, it is important to look at the fundamental principles of learning as set in pedagogy. Since the principles of learning are determined on the basis of general laws and regularities, some of them equally apply to the organization of the educational process in different types of educational institutions.

The development of the theory and practice of teaching and the introduction of new regularities lead to the changes in the existing principles of learning, as well as to the development of the new ones. It is important to determine the principles that would become the foundation of the didactic system. The choice of didactic principles should be based on the following criteria: a) the overall didactic significance of the principle; b) its significance for higher education; and c) the role of the principle in the integration of pedagogical, psychological, and medical components of university training.

The identification of the principles of pedagogical, psychological, and medical components integration requires the profound analysis of the existing principles, as well as the articulation of those new ones that would satisfy the requirements of the educational process.

Modern educational principles require a comprehensive and complex approach to the identification of the components of higher education that are to be integrated, such as educational goals and objectives, content, forms and methods of teaching, motivation, planning and learning outcomes analysis. In the past, most principles were defined on the basis of practice, practical experience, which means that they had to be empirically verified. Advances in the educational science of today allow for purely theoretical justifications to be realized.

The system of principles is characterized by the interconnections and interrelations among its components. An important condition for the existence and

functioning of such system is the presence of a central, dominant, system-forming principle. With regard to higher education and the integrational trends, which embraced all spheres of human life, the modern foundations of teaching/learning, this key principle is *the principle of the systemic and fundamental character of teaching/learning*, as well as *its professional orientation*. Other principles are, therefore, derivative of the key principle; they elaborate one or more key principles, determine and specify the conditions for introducing them.

Modern didactics treats the principles of teaching/learning as certain recommendations that govern the educational activity and the educational process in a very general way; they can also be interpreted as means of achieving educational goals on the basis of the regularities of and conditions under which the educational process occurs.

The efficacy of research and the success of integrating educational, psychological, and medical components of training special education teachers are based on the system approach. *The principle of the systemic nature of teaching/learning and of the sequential and rational organization* of the educational, psychological, and medical components integration in higher education relies on the following theoretical proposition: an individual can be said to possess knowledge only if there is an accurate and well-structured picture of the surrounding world in his/her mind. Traditionally, this principle contains the requirements of the logical, sequential, and successive presentation of new information, when each piece of knowledge or new skill is based on the previous one and develops it.

The existing system of didactic principles can be supplemented with the principle of *the integrative knowledge*, which generalizes *the principles of harmony and coordination*. The ideas that form the foundation for the above-mentioned principles are as follows: isolated piece of knowledge or individual skill has to be incorporated into the system of knowledge and skills so as to contribute to the general effect – development of the personality or, in a narrower sense, development of a complex system of professional knowledge and skills, as well as the establishment of the connections between the academic disciplines and practical activity. *The principle of integrative knowledge* stipulates that the scientifically sound integration of the content, forms and methods of

teaching/learning is an essential condition for the development of the content of education in all kinds of educational institutions.

Depending on the peculiarities of interrelation and the degree to which the content of interdisciplinary links is integrated, educational systems can be subdivided into: *integrated*, in which integration is sporadic and is introduced from the outside; *integral*, which are characterized by a flexible system of educational content structuring, the modernization of the content in such systems occurring not only at the level of the entire academic *subject*, but also touching individual objects and problems; *integrative* systems involve developing new educational content (which goes beyond the boundaries of the existing academic disciplines) and new structure on the basis of various types of integration – internal and external, content and procedural.

While in both integrated and integral systems the content is grouped by the factors external to them, in the integrative systems it is defined by the system itself. The structural model of the latter can be presented as the interrelation of invariant and variative systems of knowledge. The invariant knowledge encompasses fundamental knowledge, while the variative one, which is of a higher degree of complexity, is created by means of combining the systems of lower levels. The interaction of invariant and variative systems serves as the basis for the designing of problem blocks, which allow for the development of integrative course models.

It should be emphasized that a full-fledged interaction of all the components of the educational process components allows training students by means of relatively independent integrative processes. Each of them represents an educational unity, which can have its own content, means, ways of realization and deals with its own specific tasks.

Such integrative processes are not qualitatively identical. They are different in terms of the constituent elements and the role they play in the process of integration. Creating and successful implementation of qualitatively different integrative processes are a necessary condition for organizing students' training and solving the tasks of

professional development on the grounds on integrating educational, psychological, and medical knowledge.

The integrative trend is seen as a very general principle determining the development of the society, science, manufacturing, and education, which provides for the interdisciplinary, comprehensive, general character of knowledge, methods and means of cognition, the study of educational phenomena and processes, innovations in the system of education. Knowledge integration depends on the type of the institution in which it is implemented and plays an important role in the development of prospective specialist's professional knowledge and skills. Combining medical, psychological, and educational knowledge requires the interaction of the general education knowledge with the professionally oriented one (major/minor). Nowadays, unfortunately, this interaction is mostly spontaneous and accidental; and it is sufficiently studied only at the level of interdisciplinary connections.

Another system-forming principle that plays a crucial role in integrating pedagogical, psychological, and medical components in higher education is *the principle of professional and pedagogical orientation*.

Its realization should be coordinated with the final and intermediate goals of integrating medical, psychological, and educational components, its content, and the optimum choice of forms and methods.

The principle of humanization and humanitarization holds one of the leading positions in integrating educational, psychological, and medical components of the professional training, because it, first of all, corresponds to the latest trends in the development of education in the world and, secondly, emphasizes the role and the increasing importance of human relations, as well as of mutual understanding by all the educational process participants of what success of education is.

These very principles enable the establishment of humane relations between the instructor and the student, who, from the very beginning, has to project his/her actions and deeds onto the position of the teacher as the carrier of the good, morale, and humanism (N. Bibik, I. Zyazyun, L. Kondrashova, V. Kremen, A. Maslow, K. Rodgers,

O. Savchenko, H. Skovoroda, A. Smantser, V. Sukhomlynsky, I. Yakimans'ka, et al.). The observation *of the principles of humanization and humanitarization* provides for including the universally recognized values and attitudes into the content of the integrated educational activity (professional training). Without this, the organization of the educational process becomes impossible as the understanding of the value of the knowledge and skills acquired has to occur at a rather high level to be further broadened on the basis of *the cyclic principle*, which states: the more information and systemic knowledge an individual masters, the more opportunities unfold for him/her to further enhance, generalize, and integrate knowledge. These principles can be effectively implemented only on the grounds of the integrative approach to all components of the educational process.

The principle of succession in organizing the integration of the educational, psychological, and medical components of university training gives the opportunity to gradually move from the forms and methods of knowledge acquisition pertaining to secondary education to more active, rational, integrative, and systemic forms and methods existing in tertiary education, where it is the student who carries most of the load. Special professional knowledge should, indeed, be supplemented with the development of rational skills, which involves coping with various operational and adaptation tasks, aimed at the step-by-step adaptation to the educational process in the higher educational establishment. This is achieved by means of raising the level of the content and operational knowledge of students, as well as enhancing their organizational and adaptation competence. Thus, *the principle of succession* means both the succession in the organization of the integration of pedagogical, psychological, and medical component of training, as well as in its content.

The principle of the scientific nature of the process of integrating pedagogical, psychological, and medical components in higher education requires introducing only scientifically verified knowledge, which will provide for the systemic knowledge acquisition.

Taking this principle into consideration may positively affect the objectivity in studying the achievements of different scientific schools and influence the correspondence of the curricula and syllabi to current social, scientific, and technical progress. The

implementation of the above-mentioned principle also leads to the introduction of the latest achievements in education, psychology, medicine, and methodology.

The principle of conscious and active learning demonstrates the essence of the activity-oriented approach: it is impossible to teach someone unless he/she does not want to learn. Knowledge acquisition and individual development can occur only on condition of students' active position and purposeful efforts to obtain the results planned. This principle is actualized in the process of integrating pedagogical, psychological, and medical components of higher education because the ability to master large volumes of knowledge depends on the student's personality and his/her active position in the educational process.

The principle of conscious and active learning is intertwined with *the principle of purposeful and motivated learning*. The latter is realized at a larger scale if the goals and motives form a well-coordinated system, which corresponds to the mission of the educational establishment.

The integration of pedagogical, psychological, and medical components in training special education teachers has to be of an integrative, systemic, and interdisciplinary nature when it comes to acquiring a certain scope of knowledge in the process of classroom, extracurricular, and individual activities, stipulated by the curricula and syllabi. The student is to learn to master the knowledge presented as a system as the components of his/her professional preparation, aimed at the successful accomplishment of the final goal; he/she has to learn to independently choose the most effective forms and methods of learning material acquisition; he/she must work on the development of his/her own cognitive activity, which predetermines the formation of the skills necessary for integrating knowledge in the process of working toward a degree. Students should learn how to analyze their learning activity and modify it in regard with the mistakes and drawbacks found; they are to control by themselves the outcomes of integrating pedagogical, psychological, and medical components of their training and to master the skills that will provide them with an opportunity to use the multidisciplinary approach to deal with professional tasks.

Therefore, other principles that are of critical importance for integration are *the principle of independence, creativity, and professional and pedagogical orientation.*

This principle encompasses the current requirements for the system of higher education, in particular for training a specialist, able to individually and purposefully acquire important knowledge while studying in a higher educational establishment, as well as capable of continuous systemic and independent improvement of the acquired system of knowledge, as well as of gaining new knowledge. The integrative approach to teaching/learning dramatically expands opportunities, since the use of integrative associations and the exchange of knowledge and skills belonging to different areas and academic disciplines encourage students' cognitive development. This principle limits the dependence of the student on the instructor and is directed towards the development of student' abilities and aptitude.

The principle of accessibility and sufficient level of difficulty in the process of integrating pedagogical, psychological, and medical components is necessitated by the importance of taking into consideration the real abilities of students, avoiding intellectual and emotional overload, which can negatively affect the physical and psychological wellbeing of students. This principle is stipulated by (a) the structure of the curricula and syllabi, (b) the way information is presented in the textbooks, (c) the strategy used to introduce new notions and the number of terms that can be presented at a time. Integrative trends are closely interrelated with the principle of accessibility. First and foremost, different academic disciplines afford different perspectives on the one and the same learning material. Consequently, what is difficult for comprehension in one discipline can sometimes be better explained by means of the other. In addition, integrating knowledge and skills in the educational process is, in general, more logical and conducive to the effective learning, rather than fragmentary acquisition of information in different subject areas. Therefore, the interdisciplinary interpretation of the principle of accessibility expands its capacity and brings together various methods of teaching.

The principle of theory and practice interrelation in the integration of pedagogical, psychological, and medical components is related to the ideas expressed

in classical philosophy and modern gnoseology, which suggest that life experience and practice are the focal points of cognition. The efficiency and quality of education a tested, verified, and directed by practice. This principle is realized in a number of ways. It, for instance, ensures the rational integration of the methodological, theoretical, and practical aspects of the content of education, governs the adoption and adjustment of educational systems, maintains balance between the theoretical and factual material; ensures the optimal use of theory for the solution of various tasks set in the course of the correction and education, emphasizes the significance of bringing together various theoretical and empirical methods in conducting special education research; and encourages the use of innovative experience as the source of education theory.

The knowledge to be acquired by students in the process of integrating pedagogical, psychological, and medical components should be presented in an upto-date and accessible form. The history of science, modern theories, and the prospective lines of research, especially in the realm of achieving balance between nature and an individual, reaching harmony in the society, should be addressed.

The principles of professional and pedagogical relevance of knowledge and professional competence are intended to emphasize the importance of the inclusion of the fundamental knowledge in pedagogy, psychology, and medicine into the integration of the content of higher education, which leads to the formation of professional competence. This fundamental knowledge is essential for the practical realization and implementation of *the principle of professional and pedagogical orientation in general*.

The activity-oriented approach is based on *the principles of unity of consciousness and activity* and *the principle of interiorization/exteriorization*. In accord with these principles, activity is the necessary condition for the development of different mental processes and the consciousness of the individual, which, in their turn, regulate the activity and, thus, become the condition for its improvement. Students' active participation in the educational process makes it possible to bring together a number of various components into a functionally effective psychological system of

activity. In addition to it, under the influence of various requirements imposed on the activity, individual qualities that constitute the afore-mentioned system develop to become more responsive and adjusted.

Summing up, it should be mentioned that the principles described in the article are intrinsically interrelated with each other. Their complementarity and joint application enhances the quality of integrating the pedagogical, psychological, and medical components of prospective special educational teachers' knowledge, as well as have a positive effect on the comprehensive functioning of various integrative processes. Moreover, every principle has its own scope of application. The definition of *the principles of systemic and integrative character of knowledge*, as well as its *professional orientation* as system-forming supplemented with the theoretical analysis of the problem under consideration allows to establish a system of special principles determining the organization of pedagogical, psychological, and medical components integration in the course of special education teachers' training in higher educational establishments.

The conscious implementation of these principles by the instructor occur in the following sequence: 1) the analysis of the tasks of the process of integrating pedagogical, psychological, and medical knowledge to single out the key principles conducive to the achievement of the goal; and 2) creation of the necessary conditions for the realization of these principles during the selection of the content, methods, and forms of organizaing the process of integration of pedagogical, psychological and medical components.

Educational activity that embraces these principles provides for the integration of pedagogical, psychological, and medical knowledge in regard with the modern economic, social, and cultural situation, encompasses the process of higher education, regulates the interaction between the instructor and the students, determines the orientation of the educational techniques aimed at developing integrative knowledge in the course of training special education teachers. The latter can become the concern of further research in the field.

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Пахомова Н. Г. Принципи та умови інтеграції медико-психологічного й педагогічного складників професійної підготовки корекційних педагогів

У статті проаналізовано психолого-педагогічні умови інтеграції медичних, психологічних і педагогічних знань у навчальному процесі. Розглянуто спеціальні умови реалізації цього процесу в професійній підготовці корекційних педагогів. Серед них виділено природничо-наукову, соціально-

економічну картини світу та фундаментальні закономірності. Зазначені вище умови дозволяють інтегрувати навчальні предмети, присвячені таким галузям знань: суспільство (історія, економічна географія, правові відносини); природа (фізика, хімія, біологія); алгоритмічні процедури (математика, інформатика, кібернетика). Особливу увагу приділено визначенню та характеристиці основних принципів організації інтеграції складників професійної підготовки в умовах вищого педагогічного навчального закладу.

Ключові слова: інтеграція, умови, принципи, професійна підготовка, ресурсний підхід.

Пахомова Н. Г. Принципы и условия интеграции медикопсихологического и педагогического компонентов профессиональной подготовки коррекционных педагогов

B статье проанализированы психолого-педагогические условия интеграции медицинских, психологических и педагогических знаний в учебном процессе. Рассмотрены специальные условия реализации этого процесса в профессиональной подготовке коррекционных педагогов. Среди них выделяются естественно-научная, социально-экономическая картины мира и фундаментальные закономерности. Вышеупомянутые условия позволяют интегрировать учебные предметы, которые посвящены таким областям знаний: общество (история, экономическая география, правовые отношения); природа (физика, химия, биология); алгоритмические процедуры (математика, информатика, кибернетика). Особое внимание уделяется определению и характеристике основных принципов организации интеграции составляющих профессиональной подготовки в условиях высшего педагогического учебного заведения.

Ключевые слова: интеграция, условия, принципы, профессиональная подготовка, ресурсный подход.

Pakhomova N. H. The Principles and Conditions for Integration of the Medical, Psychological and Pedagogical Components of Professional Training of Special Education Teachers

The article focuses on the analysis of psychological and pedagogical conditions of the integration of medical, psychological, and pedagogical knowledge in the educational process. Specific conditions of the realization of this content in the professional training of special education teachers are discussed, which include the formation of a distinct scientific and socioeconomic worldview in students and the understanding of objective laws by them. These conditions provide for the integration of the academic disciplines related to the following areas: society (history, economic geography, legal relations), nature (physics, chemistry, biology), and algorithmic procedures (mathematics, information technology, cybernetics).

The article defines and characterizes the principles of integrating various components of professional training in higher educational establishments: the principles of congruity and coordination; of humanization and humanitarization; of consistency; of presenting scientifically relevant and confirmed information; of independence, creativity and professional focus; of conscious and active learning, which is related to the principle of purposeful learning and motivation. These principles are interrelated, and their simultaneous realization leads to the integration of pedagogical, psychological, and medical content in the professional training of special education teachers.

Key words: integration, conditions, principles, professional training, resource approach.

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