TIRASPOL STATE UNIVERSITY

"ION CREANGĂ" STATE PEDAGOGICAL UNIVERSITY, CHISINAU

As a manuscript

C.Z.U.: 377.091:004(043.2)=111

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METHODOLOGY OF FORMATION AND DEVELOPMENT OF INFORMATION COMPETENCY OF PROFESSIONAL SCHOOL STUDENTS THROUGH CURRICULAR AND EXTRACURRICULAR ACTIVITIES

532.02 – SCHOOL DIDACTICS

(BY STAGES OF EDUCATION AND DISCIPLINES)

Summary of the Doctoral Thesis in Pedagogical Sciences

CHISINAU, 2022

The thesis was developed within the **Doctoral School "Sciences of Education" of the Partnership of Higher Education Institutions State University of Tiraspol, "Bogdan Petriceicu Hașdeu" State University from Cahul and the Institute of Sciences of Education**

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The summary of the doctoral thesis can be consulted at the university library and on the website of National Agency for Quality Assurance in Education and Research (www.cnaa.md)

The summary was sent 18.12.2022

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GENERAL CHARACTERISTICS OF THE THESIS

The actuality and the importance of the research topic. In today's world, computing and ICT are being integrated everywhere. Professional school students study and work in an information environment characterized by increased complexity and new communication tools, such as wikis, blogs, websites, social networks, etc. Under these conditions, interacting with an abundance of information, future workers, regardless of profile, need to be able to solve problems, collaborate, make decisions, synthesize knowledge, interpret and ethically present the results of their own research. All this highlights the importance of information competency as a starting point for improving academic achievement and employability.

Description of the situation in the study area and identification of the research problem.

The analysis of scientific publications shows that the formation of information competency of students of vocational schools in the Republic of Moldova has not previously been the subject of dissertation research. Meanwhile, the competency-based approach as the basis for the modernization of national education is reflected in the works of A. Gremalschi [1], V. Guţu [2, 3], I. Lupu [4], V. Cabac [5], R. Dubrăveanu, V Pâslaru [6], I. Botgros, [7], M. Hadîrcă [8]. The theory of informatization of Moldovan education was studied in the works of A. Gremalschi, L. Chiriac, A. Braicov, M. Petic, M. Pavel, A. Globa, N. Velișco. Scientific publications by C. Negara, I. Ţiţchiev [9], L. Mihălache, O. Chirchin and G. Dragan are devoted to the development of didactics in informatics. The consideration of information competency as one of the components of professional competency is presented in the studies of N. Silistraru and S. Golubiţchi [10], D. Patraşcu [11]. The close relationship of information competency with bibliographic (documentary) activity is analyzed by specialists in the library field - M. Vătămanu [12], E. Stratan, L. Pegza, D. Dabija and L. Curbanova, with information culture - L. Corghenci [13], Il. Costaş and I. Covalenco, E. Harconiţa.

An analysis of the degree of study of this concept in the Russian Federation shows that authors such as Самойлова Н. И. [14], Арнаутов А. Д. [15], Листопад А., Мардарова И. [16] associate information competency with the type of professional activity of the individual (for example, information competency of bachelors-metallurgists, future engineers, economists and teachers). And the researchers Погодина И. А., Завьялов А. Н. [17], emphasize the need for the formation of information competency in the context of general education of students. As noted above, in the Republic of Moldova IC is considered mainly in terms of the qualities of the library reader or as a component of other general competencies, for example, research [18, c. 81].

If we consider information competency through the prism of the author's definitions, its most active terminological issues were conducted by foreign researchers C. R. McClure, S. C. Curzon, J. J. Shapiro, S. K. Hughes, etc. The review of the authors' scientific papers indicates that foreign literature, as well as national literature, uses different terms to define the concept under study:

1) individual and psychological learning through the intersection of traditional literacy, informatics, media and networks [19];

2) an integral part of the mental state of the person being educated in the information society [20];

3) personality quality, that is a multidimensional merger of literacies: (a) instrumental literacy - the ability to understand and use modern information technology (IT) tools, including software, hardware and multimedia. These include the basics of working with a computer and network applications, as well as the fundamental concepts of algorithms, data structures, network topologies and protocols; (b) resource literacy - the ability to understand the form, format, location and methods of access to information resources; (c) socio-structural literacy - knowledge of how information fits into the life of community groups, communities, corporations, public institutions, etc.; (d) publishing literacy - the ability to format and publish materials, research, ideas, reviews, etc. electronically, in textual and multimedia forms (via World Wide Web, e-mail and mailing lists); (e) technology literacy - the ability to adapt, understand, evaluate and use constantly emerging innovations in the field of information and technology; (e) critical literacy - the ability to critically assess intellectual, human and social strengths and weaknesses, opportunities and constraints, benefits and costs.

Of great importance for this study are the works of authors from the Republic of Moldova: "Quality of vocational education and labour market requirements" - E. Guțu, M. Rudic; "Vocational Education in the Real Economic Environment" – A. Tomșa and V. Midari; " Vocational guidance and employment of students in the vocational and technical education system" - V. Amariei.

Also, the monographs of authors of the Russian Federation: Тубеева Ф. К., Белогуров С. В., Артеменко Н. А., Паршукова Г. Б., Грибан О. Н., Ермаков Д. С. [21] are fundamental to this study in the formation and development of information competency.

At the same time, numerous publications on the subjects of our interest do not give a full and clear understanding of the following aspects:

- the question of theoretical understanding and practical aspects of the formation and development of information competency in a professional school remains unsolved;
- methods, tools and organizational and pedagogical conditions that ensure the effective implementation of curricular activities in the context of the development of information competency have not been fully identified;
- the potential of extracurricular activity regarding the formation and development of information competency has not been fully investigated.

Parallel analysis of requirements of educational practice and possibilities of the theory of learning (didactics) shows that the formation and development of information competency in the training of students in vocational schools is closely linked to overcoming a number of existing contradictions between:

- public demand for the training of qualified and competitive personnel of working professions and insufficient involvement of the resource potential of students of vocational schools in the formation and development of information competency;
- the ability to form and develop information competency in a professional school and the absence of a motivational environment for its mastery in combination with material and technical support;

• the need to define the content, forms and methods for the formation and development of information competency and insufficient development of relevant scientific and methodological support.

Research problem: determination of theoretical and methodological foundations for the development of a didactic model of the process of formation and development of information competency of students of vocational schools by means of curricular and extracurricular activities.

Insufficient development of the selected problem, at the theoretical level and the need for its practical solution, due to the objective requirements for the training of personnel working professions, determined the choice of the **research topic**: "Methodology of formation and development of information competency of professional school students through curricular and extracurricular activities".

The object of the research: the process of formation and development of information competency of students of vocational schools.

The subject of the research: curricular and extracurricular activity as a means of formation and development of information competency of students of vocational schools.

Aim of the research: Theoretical foundation, development and experimental verification of a didactic model aimed at the formation and development of information competence of professional school students by means of curricular and extracurricular activities.

The research hypothesis of the research is characterized by the assumption that the process of formation and development of information competency of students of vocational schools by means of curricular and extracurricular activities will be effective if:

• the requirements for the training of workers dictated by changes in technology in the labour market are defined;

• we describe the essential characteristics of information competency, build a system of criteria in accordance with its component composition, reveal a set of qualitative features (indicators) of information competency that make it possible to judge a greater or lesser degree of its formation;

• the pedagogical conditions for the effectiveness of information competency are identified and implemented on the basis of competency-based, personality-oriented and system-activity approaches;

• on the basis of the allocated pedagogical conditions, a model for the formation and development of information competency is developed and implemented in the process of curricular and extracurricular activities in the discipline "Information and Communication Technologies";

• we design a methodology of formation and development of information competency of students of vocational schools by means of curricular and extracurricular activities

The purpose and hypothesis of the study determined **the research objectives**:

(1) conduct an analysis and theoretical generalization of the genesis and etymology of the concepts of the competence-based approach; identify the essential characteristics of the information competence of professional school students;

(2) specify the concepts of "information", "competence", "competency"; identify the essential characteristics of the professional school students; define the tasks of formation and functions of information competency; consider and describe its structural composition; identification of a set of qualitative indicators of information competency, allowing to assess the level of its formation;

(3) development and the scientific-methodological argumentation of a didactic model and methodology for the formation and development of information competency of professional school students by means of curricular and extracurricular activities;

(4) conduct an experimental verification of the effectiveness of the developed model and methodology.

The methods of the research were determined by the multidimensional nature of the tasks: (a) methods of general scientific nature - abstraction, analysis and synthesis, induction and deduction, classification, analogy, generalization and scientific explanation; (b) theoretical methods - axiomatization, formalization, logical and semantic processing and scientific interpretation of first-hand data on the problem of research, study of normative documents regulating the content of vocational education; (c) method of experimental character (empirical) - observation, description, measurement, experiment; (d) Data processing methods - testing of statistical hypotheses, correlation analysis, graphical representation of research data.

The scientific novelty and originality of the study lies in: (a) the clarification of the basic principles of the educational process organization that determine the requirements for the implementation of the didactic model of formation and development of information competency; (b) the formulation and substantiation of the pedagogical conditions, the indication of the limits of their influence on the effectiveness of the process of formation and development of information competency; (c) the development of a didactic model of the process of formation and development of information competency of professional students by means of curricular and extracurricular activities, based on the target, content, organizational and procedural, evaluation-resultative blocks.

The obtained result, which contributes to the solution of an important scientific problem, is the *development of the theoretical and methodological foundations* of a didactic model of the training process and the development of the information competency of students from professional schools through curricular and extracurricular activities, *which contributed to increasing the efficiency* of the training of future workers from the system of technical and vocational education.

Theoretical significance of the research consists in substantiating the fact that information competency satisfies the requirements of multi-functionality, over-objectivity, interdisciplinarity and multidimensionality, which makes it possible to attribute it to a number of key, general cultural, transversal and global competencies of a modern person, and emphasizes its special significance for vocational school students.

Practical significance of the research consists in the possibility of introducing the developed didactic model into the educational process of all educational institutions offering training programs for skilled workers with some modification, considering the specifics of the discipline being read.

The implementation of the research of the study was carried out within the framework of a pedagogical experiment, realized on the basis of the experimental groups of the Vocational School No. 4, Balti. Theoretical and practical results of the study were published in peer-reviewed category journals and scientific collections; presented at international and national scientific conferences.

Approbation of scientific results. Theoretical and practical results of the study "Methodology of formation and development of information competency of students of vocational schools by means of curricular and extracurricular activities» were tested at the meeting of the department "Informatics and information technologies" Tiraspol State University (Chisinau); were presented in the annual reports within the Doctoral School, which is an organizational and administrative structure of the Partnership of Higher Education Institutions of Tiraspol State University (Chisinau), State University "B. P. Hasdeu" (Cahul) and the Institute of Pedagogical Sciences (Chisinau) on the profile «Pedagogical Sciences"; were discussed in the framework of the scientific colloquium "Modern recommendations in doctoral studies", USARB, Balti, 2018.

The results of the study were also presented at international and republican conferences in the period 2017-2022.

CONTENT OF THE DOCTORAL THESIS

The introduction substantiates the choice of the research topic "Methodology of formation and development of information competency of professional school students by means of curricular and extracurricular activities". Its relevance has been revealed by understanding the degree of study in modern research practices. The essence of the problem situation has been shown. The subject and object of research have been formulated. The purpose, hypothesis and objectives have been identified. The methods of research have been described. Scientific, theoretical and practical significance have been revealed. Information on approbation and implementation of the results has been provided.

The first chapter "Conceptual and axiological bases of formation and development of information competency of students of vocational schools" consists of three independent and interrelated paragraphs, covering the main theoretical provisions of the studied topic.

The first paragraph "Analysis of the evolution of the concept of competency and information competency" concretizes the views existing in modern scientific literature on the definitions of the concepts of "information", "competence" and "competency".

On the basis of the comparative analysis of different interpretations of the concepts of «competence» and "competency" it is concluded that the specified categories are not interchangeable, but are concepts of different hierarchical levels. In addressing the basic distinction between competence and competency, it is taken into account the fact that each action has two aspects: resource-based and productive. Competence is responsible for the resource aspect, while competency turns the resource into the final result. This implies the conclusion that by forming only competences in students, the school endows them with the capacity to act. This is not enough for the qualitative performance of a particular type of activity. Therefore, it is necessary to form their competency (possession of the relevant competence), i.e., the ability to realize their potential.

It was found that modern society needs a specialist who is able to permanently enrich knowledge. This, in the context of universal informatization, directly depends on the ability to freely access various paper and/or electronic sources of information, the ability to select, to mobilize and integrate suitable resources to address different professional situations and to deal with them through ICT. Consequently, one of the leading places in the system of modern education is the task of formation and development of information competency of students.

It has been shown that the phenomenon of informational competency a priori is connected with the educational role of libraries and the need to implement educational programs in this direction. It has been noted that today the library, having rich traditions of work with information and a wide range of information services, can make a significant contribution to the formation and development of information competency.

On the other hand, it has been proved that the school informatics [22, p. 12] is the backbone of information competency in modern reality. In the context of the discipline under consideration, the question of its development has been clarified.

The connection of information competency with related concepts has been specified: “information literacy”, “competency in the use of media”, “information culture”, “multimedia literacy”, “ICT competency” and “digital competency”. It has been acknowledged that information competency is a broader category, as it covers theoretical knowledge and practical skills related to information procedures and operations that can take place in systems of any nature. Moreover, the status of the umbrella term [23] gives every reason to define this category as a key (Зимняя И. Я. [24]), cross-cultural (Морковина Э. Ф. [25]), global and transversal (Курбаноглу С. [26, p. 94]), universal (Акулова О. В. [27, p. 22]) competency.

The second paragraph “Specificity of training skilled workers in the context of the information society” is based on the analysis of normative documents regulating the educational process in vocational schools. The Standards for employment of working professions and the National Qualifications Frame have been studied; the programs for professional training of students – “Mechanical processing of metal”, “Electrics and energy” and “Motor and aircraft vehicles” have been considered. The definition of information competency of professional school students is proposed, which is considered as a set of personality qualities formed as a result of mastering cognitive processes aimed at reception and interiorization, operation and primary processing, modeling and algorithmization, justification and argumentation, secondary processing and integration of information by means of oral and written information and communication technologies, adequate critical and ethical position, necessary for self-determination and self-realization.

The third paragraph "Information problems of professional training of skilled workers as a basis for teaching information competency" is devoted to identifying a number of information problems that students of vocational schools may encounter in the framework of curricular and extracurricular activities: (a) a problem of a logical nature associated with insufficient development of mental operations: analysis, comparison, abstraction, generalization and concretization. The indicated problem lies in the limited vocabulary, the inability to determine and build the structure of the text, in the unsatisfactory construction of oral and written information; (b) a problem of a reflexive nature. Students in vocational schools have difficulties

in organizing information activities, assessing the quality of written information and understanding its meaning; (c) a problem of a communicative nature, which consists in the inability of students to clearly express their own thoughts and inability to be engaged in the dialogue system.

It is assumed that the integration of curricular and extracurricular activities in the discipline "Information and Communication Technologies" will significantly expand the content of the studied material and work out the existing and / or form new ways of working with various information sources (transformation and interpretation) [28, 29]. Targeted application of educational, scientific and cognitive information, active dissemination and exchange of it will create conditions for the effective formation and development of information competency.

The second chapter "Methodological bases of formation and development of information competency of professional school students" consists of four paragraphs, describing the system of principles and methods of organization of curricular and extracurricular activities with the purpose of formation and development of information competency.

The first paragraph "Formation of student's competency through the mechanism of contextualization-reconnectualization-decontextualization" describes the process of competence formation through the sequential resolution of a family of complex situations and the vertical transfer of resources (knowledge, skills, value relationships) from one situation to a more complicated one.

It has been specified that situations should have the following characteristics: 1) the situation should be significant for the student; 2) the situation should contain at least one problem, the solution of which leads to the appearance of some product (text, presentation, etc.); 3) the situation should be real (or represent a situation, the resolution of which involves the use of the same resources that are necessary to solve the real situation); 4) the way to solve the problem should not be obvious; 5) the description of the situation may contain unnecessary data; some required data may be missing; 6) the duration of the resolution of the situation should be reasonable; 7) the situation should allow the student to demonstrate creative abilities; 8) to resolve the situation, it is necessary to use several resources (not one). 9) the situation should be adapted to the student's level of training.

It has been shown that the central place in the process of formation of competency among students is occupied by the concept of transfer. It has been noted that the transfer is possible only if there has been assimilation and memorization. Therefore, if the knowledge is not mastered when solving some source problem or access to this knowledge is not provided, then there is no need to talk about transfer. In other words, the lack of transfer can be explained by the lack of assimilation or memorization of primary knowledge [30].

The second paragraph "Features of the formation and development of information competency" contains information on the definition of the tasks of formation and functions of information competency, its structural composition. The information skills of students are identified, which are a mastered ability to perform targeted and effective actions with information (table 1).

Table 1. Details of the information skills of students in vocational schools

№	Skills		Skill content
1	**Reception and Interiorisation**		
	1.1	reception and understanding	Identification of concepts, phenomena, processes, relationships, observations, etc.; determination of information; enumeration of some facts, phenomena, processes, etc. ; reproduction of definitions, texts, concepts; collection of data, information, etc.; description of facts, phenomena, processes, etc., selection of facts, phenomena, processes, etc.
	1.2	identification	
	1.3	definition and recognition	
2	**Operation and primary information processing**		
	2.1	using	analysis and synthesis; comparison and dissimilation; establishing relationships; categorization and classification; induction, deduction; research; experimentation; solving simple examples, problems, situations.
	2.2	handling	
	2.3	choice	
	2.4	research	
	2.5	decomposition	
	2.6	transformation	
	2.7	clotting	
3	**Modeling and Algorithmization**		
	3.1	solving	application of schemes, models, algorithms in solving the tasks; data presentation; structuring.
	3.2	simulation	
4	**Justification and Reasoning**		
	4.1.	argumentation	description of certain processes, phenomena, systems; generation of ideas, concepts, solutions; argumentation of certain statements; demonstration; interpretation; illustration; establishment of relationships between facts, phenomena and processes (cause and effect).
	4.2	production	
	4.3	explanation	
	4.4	expression	
	4.5	description	
5	**Secondary information processing**		
	5.1	implementation	Formulation of conclusions; evaluation of results; system analysis of data, phenomena, processes; development of strategies; creation of new ideas; extrapolation; extension; abstraction; deduction, induction.
	5.2	analysis	
	5.3	connection	
	5.4	evaluation	
6	**Integration**		
	6.1	organization	generalization; optimization; transposition; transfer; adaptation and contextuality adequacy; planning; management; conceptualization; effective communication.
	6.2	representation	
	6.3	transfer	

In the context of current research, the proposed classification is the most appropriate, because: (a) relies more on curricular and extracurricular activities rather than library activities; (b) provides students with the successful implementation of holistic rather than individual actions and operations; (c) is a «metacognition» - the students' awareness of their own mental states and processes. The system of criteria of information competence has been built. A set of qualitative features (indicators) has been revealed, that makes it possible to judge the greater or lesser degree of severity of each criterion (Table 2).

Table 2. Criteria and indicators for the development of information competency

Criteria	Indicators
Motivational	– availability of information needs; – availability of information activity purposes; – positive attitude to information activity as a personal and professional value; – awareness of the importance of the process of obtaining secondary vocational education; – striving for purposeful creative information activity for self-development and self-improvement; – readiness to use the existing knowledge, skills and experience of information activities in solving the tasks.
Cognitive	– understanding the features of the main information processes; – deep knowledge in curricular and extracurricular activities; – knowledge of certain information processing algorithms using library catalogs and information retrieval systems that ensure promptness in solving information problems; – assessment of the quality of information received during the implementation of curricular and extracurricular activities;
Activity-based	– Manifestation of independence in solving information problems; – Active involvement in curricular and extracurricular activities; – Possession of various ways of searching and processing information; – Application of existing knowledge in the framework of curricular and extracurricular activities, to obtain and create new knowledge, using means of protection against accidental or intentional exposure.
Reflective	– Conscious observation and reflection on one's own experiences, actions, feelings and reactions, as well as their interpretation and analysis within the framework of curricular and extracurricular activities; – Formation of self-control, self-correction and self-realization within the framework of curricular and extracurricular activities.

According to the selected criteria, the levels of IC formation (low, medium, high) were determined, which can be presented as a «line hierarchy», meaning that each subsequent level includes the previous one and has special features that distinguish it from the previous one. As student's progress along the "line hierarchy", new thinking is formed and as a result, information competence is developed.

Based on the analysis of table 3, we conclude that a low level is a minimum acceptable for all students.

The middle level implies exceeding the minimum characteristics of the formation of information competency.

High level characterizes the maximum possible expression of information competency, serving as a guide for self-improvement.

Table. 3. Criteria and indicators of the level of formation of components of information competency

Level indicators		
Low	**Middle**	**High**
Motivational criterion **Indicator:** Motivation for the implementation of information activities.		
Superficial external motivation; situational expression of the information received through curricular and extracurricular activities; fragmentary perception of the role of ICT in professional training.	Stable external motivation; demonstration of positive attitude to received information in curricular and extracurricular activities.	Internal motivation; display of a valuable attitude to the received information within curricular and extracurricular activities.
Cognitive criterion **Indicator:** Knowledge of information and information processes, sources of information, methods of working with information.		
Knowledge is minimal, fragmentary, superficial, unsystematic and personally unconscious; Superficial perceptions about Internet services, electronic communication technologies, their applications in curricular and extracurricular activities.	Knowledge is deep but incomplete and not always conscious; limited knowledge of Internet services, electronic communication technologies, their applications in curricular and extracurricular activities.	Knowledge is deep, meaningful, systemic; full knowledge of Internet services, electronic communication technologies, their applications within curricular and extracurricular activities.
Activity-based criterion **Indicator:** Practical skills		
Lack of proficiency in methods, methods and means of obtaining, storing and processing information based on ICT; Solving the simplest information tasks, most often with external support.	Partially formed skills of working with information (including with the help of ICT) on the assignment of the teacher; Predominance of independent building of information activities aimed at solving typical problems with minor errors.	Full possession of the basic methods, ways and means of implementing information processes; autonomous work in solving information problems of various levels of complexity.
Reflective criterion **Indicator:** Inclusion in information activities and their reflection.		
Weak ability to critically assess one's own information activities in curricular and extracurricular activities; low self-targeting towards ICT search and integration into curricular and extracurricular activities.	The ability to independently search for errors and critically evaluate information activities within the curricular and extracurricular activities.	Strong capacity for productive analysis of one's own information activities; Continuous commitment to improvement.

The third paragraph "Didactic model of formation and development of information competency of professional school students in the framework of curricular and extracurricular activities" reveals pedagogical approaches, the principles and conditions on which the pedagogical activity of formation and development of information competency is based. It has been designed and described a didactic model, whose possibilities contribute to facilitation of the process of formation and development of information competency (fig. 1).

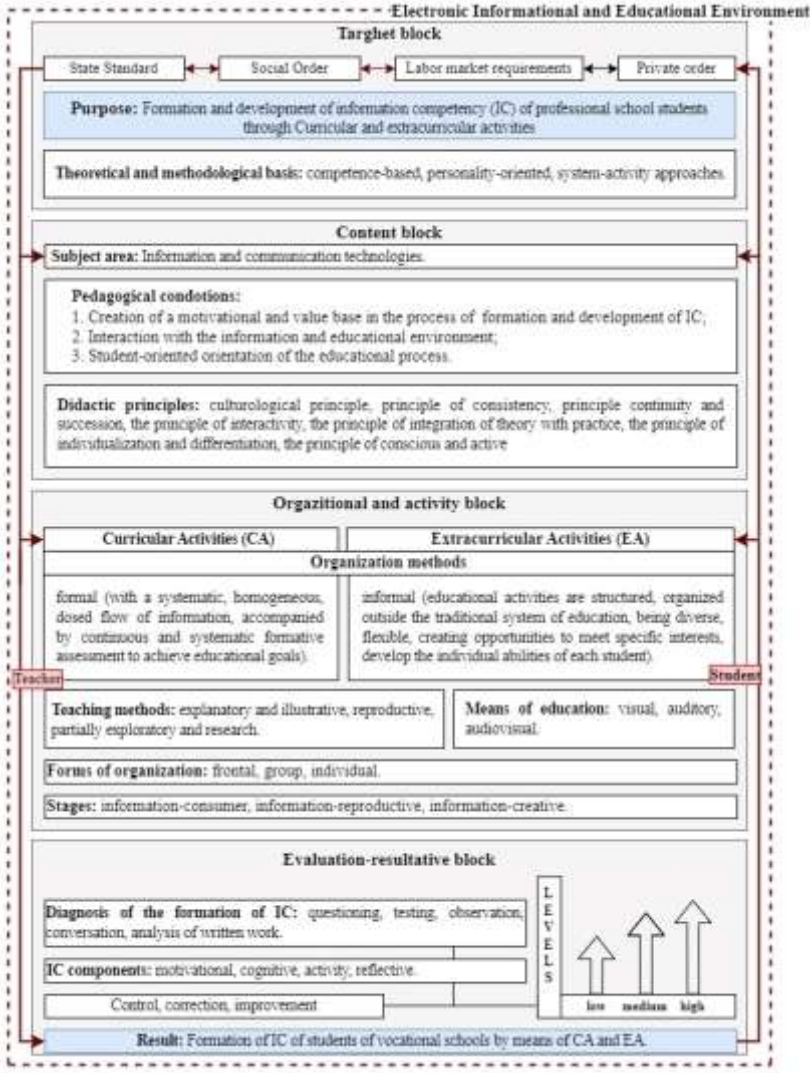


Fig. 1. Didactic model of the process of formation and development of information competency of professional school students through curricular and extracurricular activities

The target block of the developed model performs purposeful and stimulating functions; the content block performs an orienting and developing function; organizational and procedural block performs methodical and reflexive functions; evaluation-resultative block performs controlling and corrective functions.

The peculiarity of the developed model consists in the following: (1) it is based on the integration of competence-based, personality-oriented and systemic activity-based approaches; (2) it is based on the concept of information competency as an integration of information-cognitive and information-communicative processes; (3) various functional roles of a student as a subject of information relations in information consumption, information reproduction and information creation activities are taken into account.

The designed model differs from the similar ones by (a) the mechanisms of formation and development of information competency; (b) organizational forms used for the formation and development of information competency in the integration of curricular activities with extracurricular activities; (c) resource and content potential, which affect the completeness of the formation of information competency of professional school students; (d) teaching methods that encourage students to improve the taxonomy of informational skills in teaching in curricular and extracurricular activities.

The fourth paragraph "Methodology for the formation and development of information competency" fixes a set of teaching methods classified according to the nature of the cognitive activity of students and their functional roles: consumer, transmitter and creator.

The stage of information consumption activity is characterized by the use of an explanatory and illustrative method of learning: (a) The teacher provides students with a theoretical presentation of the material when considering issues related to the study of specific application software (for example, MS Office), demonstrates the implementation of the principles of its functioning in practice; (b) The teacher alternates between a demonstration of specific application software (for example, MS Office), with a theoretical explanation of the content being viewed; (c) The teacher provides a system of developed video instructions embedded into the author's MS Office course (https://sites.google.com/site/curslamicrosoftoffice/), visualization of which allows students to understand, conceptualized and memorize their knowledge.

Students, as consumers of information, listen, observe, realize, memorize and, most importantly, understand the educational material. We believe that the value of the explanatory and illustrative method of learning in the context of the formation of information competency lies in the fact that namely at this stage the (information consumption) student learns to process the information: he / she formulates the heard material with his / her own words, reconstructs and anticipates ideas.

The reproductive stage of information activity involves the use of the same method of learning, the essence of which is the reproduction of theoretical information (knowledge). Assignments based on sample, directions, instructions and guidelines were used. The performance of this type of tasks is based on the mechanism of recognition, recall and

memory. In the context of the formation and development of information competency, it is very important because: (a) recall has a direct bearing on the arbitrary process of reproduction of partially or completely forgotten information (through will-driven efforts and associations), that can lead to its updating; (b) recognition depends on the number of learned stimuli, on the frequency of access/use, and on the time interval between the consumption of educational material and the questioning of the studied material. At the same time, the accuracy and speed of recognition depends on meaningfulness, for example, familiar material is recognized more accurately, and meaningful material is recognized faster; (c) memory, as a dynamic category, is focused on the reproduction by students of images/representations stored in memory; requires complex mental activity necessary for mastering the content of educational information, determining the sequence of fragments of memories and establishing causal relationships between them [31].

Also, at the stage of information and reproductive activity, a partially search method of training was also used. The logic of its implementation is proactive and performs a guiding function, for the reason that questions or private problem tasks are put «before» or «in the process» of studying the topic (problem solving). This method requires a high concentration of attention, activation of thinking, information search, making assumptions, substantiation of statements by students, thus promotes the formation of solid and deep knowledge, internally motivates them, causing a steady interest in the studied discipline. There have been used question-based items: (a) with alternative answers (Yes/No, or True/False, or Truth/Falsehood, or 0/1, or Agree/Disagree, etc.), which are well suited for testing students' memory or understanding; (b) with multiple choice answers, used to test the ability to recall memorized information, apply theoretical knowledge to new situations; (c) establishing correspondence between elements of one set and elements of another set, testing students' ability to attribute an object to a concept, phenomenon, or category, to classify and reproduce the established connections and successive series; (d) with open-ended answers used to present one's own judgments and arguments.

The creative stage of information activity has been based on problematic and research methods of training, which is very important for the dynamic nature of the process of formation and development of information competency. In the center of the problem method we have put complex situation. And in the center of the research method we have placed managed independent work.

The third chapter "Experimental substantiation of the effectiveness of the didactic model of formation and development of information competency of professional school students" consists of three paragraphs covering the organization, planning and conducting of experimental work on the research topic.

The first paragraph «Purpose, objectives and content of pedagogical experiment» reveals the variables of pedagogical experiment:

Independent variables:

• the variable “content”, including the modular curriculum on Information and Communication Technologies for vocational education, the work program and lesson planning, is present in both samples. This means that students in the control and experimental groups follow the same educational path;

• the variable "scale" is used to determine the "level" of the pedagogical experiment, which is the same educational institution;

• the variable “duration in time (short-term, medium, long-term) and coverage by volume of material” is parallel, that is, students of control and experimental groups relate to the same year of admission;

• the variable “technical equipment” has been introduced to ensure the same conditions. That is, theoretical, practical/seminar, laboratory hours, optional classes in informatics and preparation for quizzes, competitions and conferences in the experimental and control groups are designed and implemented in the same classrooms, using the same equipment (multimedia projector, screen on a tripod, personal computer, scanner, Internet); assessment of students (formative, current, final) in both groups is carried out using homogeneous control and measuring materials.

Factor variables:

• The variable «teacher» means that in the experimental group the classes are conducted by the author of the study, and in the control group by other teachers according to the modular curriculum on Information-Communication technologies for vocational education, using traditional assignments on the topic;

• The variable «Methodology of formation and development of information competency of professional school students through curricular and extracurricular activities» means that the training in the experimental group is conducted on the basis of educational-methodological support in accordance with the model of formation and development of information competency.

The dependent variable is expressed in the educational indicators displayed by students throughout the experiment.

The total duration of the pedagogical experiment of the dissertation research was 5 years and was carried out in the period from 2017 to 2022. The Vocational School No. 4 of Balti acted as an experimental base. This institution (due to its belonging to secondary vocational education as an integral part of the national education system) provides training for graduates of gymnasiums, secondary schools and lyceums, as well as retraining of the adult population in the following professional areas: metal machining, electronics and energetics, motor and aircraft vehicles.

The second paragraph describes the stages of implementation of experimental work: theoretical, preparatory, basic and final. Despite the fact that all of them are interconnected and subordinate to the main goal (formation and development of information competence), each of these stages has been characterized by its own objectives, methods and results (table 4).

Table 4. Stages of the pedagogical experiment

Stages of experimental work	Academic years	Pedagogical experiment	Number of participants	Main means	Result
theoretical	2016-2017	-	59 people	interview (personal conversation)	studying the experience of teachers of vocational schools
preparatory	2017-2018	exploratory	80 people	questionnaire survey	identifying the needs of students in mastering information competency.
basic	2018-2019	ascertaining	74 people	survey, testing	Identification of the real state of formation of information competency in students of vocational schools.
	2019-2020 2020-2021	clarifying		assignment system	Development and implementation didactic model and methodology in CA and EA students of the experimental groups.
final	2021-2022	formative		questionnaire, testing	checking the effectiveness of the developed didactic model and methodology.
Total number of students:			**154 people (students) 59 people (teachers)**		

The first stage (2017-2018) - theoretical.

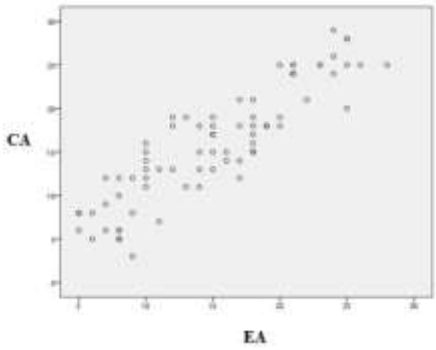
Within the framework of this stage, the following objectives were solved: (a) analysis of the scientific development of the research problem; (b) development of psychological-pedagogical and scientific-methodical literature; c) accumulation of own experience and work experience of teachers of vocational school No. 4 in Balti on the research topic.

Second stage (2018-2019) - preparatory.

As part of this stage, a search experiment was carried out. Here, the main activities were aimed at identifying the needs of PS students in mastering informational activities. The questionnaire of Volobueva A.A. “Can I?” acted as a data collection tool.

The results of the survey in comparison with the requirements prescribed in the Standards of Employment of Working Professions, the National Framework of Qualifications and in training programs: «Metal Machining», «Electronics and Energetics», and «Motor and aircraft vehicles» have confirmed the need for a firm and consistent position regarding the formation and development of information competency of students of vocational schools.

Also, the distributed data of the questionnaire of Volobuev A. A. «Can I?» were analyzed from the point of view of connection of involvement of students in curricular and extracurricular activities. The statistical method, namely the Pearson correlation coefficient (Fig.2) was used to interpret the answers accurately.



Correlation

		AC	EA
CA	Pearson correlation is significant (two-tailed) N	1 80	,880** ,000 80
EA	Pearson correlation is significant (two-tailed) N	,880** ,000 80	1 80

** Correlation is significant at the 0,01 level.

Fig. 2. Dispersion points and closeness between curricular and extracurricular activities

Pearson's correlation coefficient showed a high correlation between students' involvement in curricular and extracurricular activities. This led to the conclusion that students who are actively involved in extracurricular activities, such as round tables, discussions, the creation of multimedia presentations and booklets, writing essays, writing short notes, working with literature, preparation of reports and creative projects, quizzes, Club of Cheerful and Resourceful, contests, debates, wall printing, business game, subject evenings, briefing, brainstorming, entertaining breaks, etc.). are also active in curricular activities.

The third stage (2018-2019; 2019-2020; 2020-2021) - the main.

During this phase, observation and clarification experiments were conducted.

The ascertaining experiment (2018-2019) was aimed at solving the following tasks:

– development of criteria, indicators and levels of formation of information competency;
– selection of tools for revealing the real state of formation of information competency of professional school students;
– diagnosing the formation of information competency;
– comprehending and interpreting experimental data.

74 people took part in the ascertaining experiment: first-year students of the professional training programs "Mechanical processing of metal", "Electronics and energetics" and "Motor and aircraft vehicles".

It should be noted that in order to carry out the diagnostics of information competency, we proceeded from the position that the expected and measured components of any competency are knowledge, skills and experience that all students should be able to demonstrate. On this basis, the capacious concept of information competency was divided into components: motivational, cognitive, activity-based and reflective. Such a decomposition made it possible to observe the manifestation of each component separately in curricular and extracurricular activity.

The following tools were used:

– methodology «Study of features of the motives of the study», Овсянникова С.К. [32];

– methodology "Determining the level of reflexivity", Карпов А. В. and Пономарёва В. В. [33];
– initial test in the discipline "Information and Communication Technologies".

The results of the ascertaining experiment indicated the need for an effective process of formation and development of the information competency of students in vocational schools.

The clarifying experiment was carried out in 2019-2020 and 2020-2021

In the period 2019-2020 of clarifying experiment, one of the main objectives was to transform the process of formation and development of information competency into an educational trajectory for experimental groups in curricular and extracurricular activities in order to prepare students for information-consuming, information-relaying and information-creative activities. To do this, we turned to the potential of teaching methods classified according to the nature of students' cognitive activity: explanatory-illustrative, reproductive, partially exploratory and research.

At this stage, the author's course on MS Office was being finalized (https://sites.google.com/site/curslamicrosoftoffice/). The training content consists of three electronic modules on Microsoft Word, Excel, Power Point, which carry informative, practical and control features. The theoretical part of all modules was developed with the help of video tutorials, the availability of which, first of all, reduces the cognitive load of students, increases motivation and develops the ability to study independently. The practical part is accompanied by training exercises, the solution of which contributes to the formation of more solid knowledge of the studied material, and the control part transforms the acquired knowledge into skills and abilities. This course participated in the Republican competition "Open Educational Resources: Here and Now", organized by the Educational Center ProDidactica within the framework of the project "Open Education in the Republic of Moldova" - phase II in 2017 and took 3rd place. And in 2020-2021 it was noted in the Methodological recommendations for teaching Informatics and recommended for study as an educational resource (https://mecc.gov.md/sites/default/files/_16_repere_metodologice_informatica_2020-2021_final_4.09.2020.pdf; p. 6).

In the period 2020-2021 of clarifying experiment, the content of extracurricular activity was designed in such forms as: online marathon, extracurricular event, workshop and competition.

The conducted clarifying experiment made it possible to draw the following conclusions: (a) to adjust and refine the system of tasks of problem and research methods; (b) specify the pedagogical conditions and the basic principles of the educational process in curricular and extracurricular activities for the formation and development of information competency; (c) design a didactic model for the formation and development of information competence and test its functionality in the experimental group.

The fourth stage (2021-2022) - the final one.

Within the framework of this stage, a formative experiment was used, the implementation of which was accompanied by: (a) the implementation of experimental work on the implementation of the methodology for the formation and development of information competency; (b) accumulation, development and generalization of empirical material; (c)

interpretation of experimental data; (c) presentation of the results using a visual representation of the material; (d) checking the completeness of the formation of information competency.

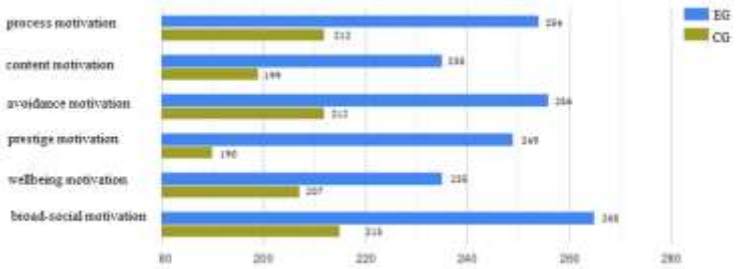
The following methods were used: theoretical analysis, synthesis, generalization, systematization, comparison; statistical methods of primary and secondary processing of experimental data.

The third paragraph "Statistical processing of experimental data" presents the results of the experiment, which were carried out using the computer program IBM SPSS Statistics 23 and yequalx.com.

The implementation of the methodology for the formation and development of information competency in the process of teaching experimental groups showed the following results (Table 5):

Table 5. Formation of information competency

1. Motivational component



	Null hypothesis	Criterion	Meaning	Solution
1	Distribution of motivation is the same for the category group.	U -test Mann-Whitney for independent samples.	,000	Null hypothesis is rejected.

Asymptotic significances are derived. Significance level is 0,5.

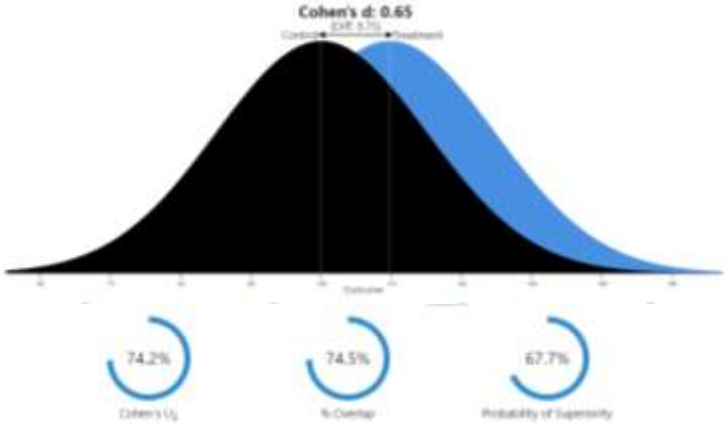
Conclusion: Students of the experimental groups (EG) have a higher level of motivation compared to the students of the control group (CG) (hypothesis H1 is accepted).

2. Cognitive activity-based component

Marks of students in the control and experimental groups:

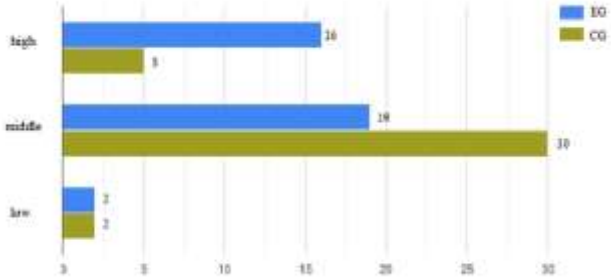
Group	Mark							Average score
	4	5	6	7	8	9	10	
CG		19	6	7	4	1	-	**5,97**
EG		7	6	16	6	2	-	**6,72**

Visual interpretation of the Cohen's coefficient d (https://rpsychologist.com/cohend/) led to the following conclusions:



74.2% of students in the EG have a higher average performance than students in the CG. 74.5% of the marks in both groups are the same, and there is a 67.7% chance that a randomly selected student from the EG will have a higher score than a randomly selected student from the CG.

3. Reflective component



	Null hypothesis	Criterion	Meaning	Solution
1	Distribution of CA is the same for the category EA.	U -test Mann-Whitney for independent samples.	,040	Null hypothesis is rejected.

Asymptotic significances are derived. Significance level is 0,5.

Conclusion: The difference in the levels of the reflexive component formation in the EG is higher (hypothesis H_1 is accepted).

The percentage ratio of all diagnosed components of information competency (motivational, cognitive, activity-based, reflective) according to three levels of development (low, middle, high) was distributed in the following order (Table 6).

Table 6. Level of IC "after" the implementation of the methodology.

Levels / Components	Low		Middle		High	
	CG	EG	CG	EG	CG	EG
Motivational	**10(p)**	**0(p)**	**13(p)**	**7 (p)**	**14(p)**	**30(p)**
	27,02	18,91	35,13	18,91	37,83	81,08
Cognitive and Activity-based	**19(p)**	**7(p)**	**13(p)**	**22(p)**	**5(p)**	**8(p)**
	51,35	18,91	35,13	59,45	13,51	21,62
Reflective	**2(p)**	**2(p)**	**30(p)**	**19(p)**	**5(p)**	**16(p)**
	5,40	5,40	81	51,35	13,51	43,24
Average indicator (formation of IC)	**18,01**		**46,82**		**35,13**	

The data of the experimental work indicate that as a result of the introduction of the developed methodology into the process of curricular and extracurricular activities, the level of formation of information competency in the experimental group has increased.

The dynamics of the formation of the information competency of professional school students was traced on separate components (Table 7; Table 8):

Table 7. The level of IC "before" and "after" and the implementation of the methodology.

Before the implementation of the methodology						
Levels / Components	**Low**		**Middle**		**High**	
	CG	**EG**	**CG**	**EG**	**CG**	**EG**
Motivational	**0(p)**	**2 (p)**	**36(p)**	**32(p)**	**1(p)**	**3(p)**
	0	2,70	97,29	86,48	2,70	8,10
Cognitive and Activity-based	**5**	**21(p)**	**11(p)**	**15(p)**	**3(p)**	**1(p)**
	62,16	56,75	29,72	40,54	8,10	2,70
Reflective	**15(p)**	**12(p)**	**20(p)**	**21(p)**	**2(p)**	**4(p)**
	40,54	32,43	54,05	56,75	5,40	10,81
Average indicator (formation of IC)	**32,43**		**60,80**		**6,30**	

After the implementation of the methodology						
Levels / Components	Low		Middle		High	
	CG	EG	CG	EG	CG	EG
Motivational	10(p)	0(p)	13(p)	7 (p)	14(p)	30(p)
	27,02	0	35,13	18,91	37,83	81,08
Cognitive and Activity-based	19(p)	7(p)	13(p)	22(p)	5(p)	8(p)
	51,35	18,91	35,13	59,45	13,51	21,62
Reflective	2(p)	2(p)	30(p)	19(p)	5(p)	16(p)
	5,40	5,40	81	51,35	13,51	43,24
Average indicator (formation of IC)	18,01		46,82		35,13	

In terms of indicators of all components, there is a positive trend. The results reflected in table 7 made it possible to build a table of summary indicators of the level of information competency (tab. 8).

Table 8. Summary indicators of IC levels

Levels	Low		Middle		High		Average indicator	
Before the implementation of the methodology								
	CG	EG	CG	EG	CG	EG	CG	EG
IC	34,23	30,62	60,35	61,25	5,40	7,20	1,71	1,74
After the implementation of the methodology								
	CG	EG	CG	EG	CG	EG	CG	EG
IC	27,92	8,10	50,42	43,23	21,61	48,64	1,93	2,40
Growth of average indicators							0,22	0,66

The obtained results prove that the increase in the average indicator (the difference between the initial and final values of the level of information competency in the experimental group) was 0.66.

Experimental study on implementation of the didactic model and methodology developed by us into curricular and extracurricular activity has proved its optimality and efficiency in the context of formation and development of information competency.

GENERALL CONCLUSIONS AND RECOMMENDATIONS

Readiness for continuing education, flexibility, competitiveness and the ability to work with information are among the main requirements imposed by the labour market on graduates studying in working professions. Among the professional competencies of a modern worker, information competency is at the forefront.

The main results of the study are synthesized in the following conclusions:

1. Analysis of the semantic field of the concept of information competency, its comparison with related concepts: «information literacy», «competency in the use of media», «information culture», «multimedia literacy», «ICT competency», and «digital competency», showed a wide range of interpretations of the concept and allowed to draw an important conclusion that IC is a broader and comprehensive concept. It is substantiated that information competency satisfies the requirements of multi-functionality, transdisciplinarity, interdisciplinarity and multidimensionality, which made it possible to attribute it to a number of key, cross-cultural, transversal and global competencies of a modern person, to emphasize its special significance for professional school students (Chapter 1, § 1.1, § 1.2).

2. The paper proposes the author's definition of the concept of information competency (Chapter 1, § 1.2), where cognitive processes and technologies are highlighted, the mastery of which allows one to form information competency as a set of personality qualities.

3. Within the framework of "integration pedagogy", the technology of competency formation was clarified and substantiated by sequentially resolving a family of difficult (complex) situations and vertically transferring resources (knowledge, skills, valuable relations) from one situation to another, a more complex one (Chapter 2, § 2.1). The proposed technology singles out and justifies the role of vertical transfer in the formation of competence.

4. Within the framework of the study, the information skills of students have been defined and detailed, the functions and component composition of information competency have been identified, which made it possible to develop criteria and indicators for the formation of information competency components. The developed criteria (motivational, cognitive, activity-based, reflective) and indicators (low, middle, high) allow assessing the formation of components at the level of the information consumer and at the level of the information creator.

5. In consequence of theoretical generalization of research results, a model for the formation and development of information competency of professional schools' students by means of curricular and extracurricular activities was developed and didactically substantiated. As a basis for constructing the didactic model, competency-based, personality-oriented and system-activity approaches have been used (Chapter 2, § 2.3). The model integrates four blocks (target, content, organizational and procedural, evaluation-resultative) and is functional, remaining open for additions and development.

6. To test the effectiveness of the constructed didactic model, a methodology was developed for the formation and development of information competency of students in vocational schools by means of curricular and extracurricular activities. The basis for the development of the methodology has been: the developed didactic model, the taxonomy of cognitive processes by B. Bloom, the stages corresponding to the types of information activities: information consumption, information reproduction and information creation. To implement the educational process, the following products have been developed: the author's course on MS Office (https://sites.google.com/site/ curslamicrosoftoffice/), educational complex situations, training tasks for various purposes (Chapter 2, § 2).

7. Experimental testing of the developed didactic model and methodology of formation and development of IC proved their effectiveness: (a) 74.2% of students in the

experimental groups showed a higher average performance than students in the control groups; (b) students of the experimental groups demonstrated a higher level of motivation for learning and a higher level of reflexivity. The grouping of formation indicators of information competency components in summary tables and their analysis allows us to conclude that after the implementation of the methodology, the level of information competency formation in the experimental groups increased (Chapter 3, § 3.3).

8. The purpose and objectives of the study were achieved, contributing to the solution of the research problem: determination of the theoretical and methodological foundations for the development of a didactic model of the process of formation and development of the information competency of professional school students by means of curricular and extracurricular activities (Chapter 3, § 3.3). The solution of the research problem and the achievement of the set objectives are supported by the results published in papers [34], [35], [36], [37], [38], [39], [40], [44], [45], [46], [48], [49], [50], [51], [54], [55] and provide an opportunity for a better training of competent specialists in the professional school.

Limits of the obtained results. Although the data from the pedagogical experiment confirm the initial research hypothesis, some limitations have been identified: (a) taking into consideration the speed of changes in the field of information technology, it is difficult to predict the requirements for the professional training of future workers with respect to the minimum level of information competency; (b) the research did not take into account the «contribution» of industrial practice to the development of information competency.

In the context of the obtained results, we consider it necessary to provide a number of practical **recommendations** for further research:

– proceeding from the position that information competency is a phenomenon that reflects the current society and changes in parallel with it, a new set of methods and means for the formation and development of information competency of students in professional schools should be introduced;

– to study the influence of industrial practice on the process of formation and development of information competency of professional school students;

– to change the criteria and the indicators for the formation of information competency components depending on the vocational training of students in professional schools;

– considering that information competency goes beyond superficial and technical experience of working with information, the developed model should be introduced into curricular and extracurricular activities of other disciplines.

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ADNOTARE

GRADINARI Oxana

METODOLOGIA FORMĂRII ŞI DEZVOLTĂRII COMPETENŢEI INFORMAŢIONALE A ELEVILOR ŞCOLILOR PROFESIONALE PRIN ACTIVITĂŢI CURRICULARE ŞI EXTRACURRICULARE

Teză de doctor în ştiinţe ale educaţiei. Chişinău, 2022

Structura tezei: introducere, trei capitole, concluzii generale şi recomandări, bibliografie din 215 de titluri, 20 de anexe, 141 pagini de text de bază, 28 de figuri, 30 de tabele. Rezultatele obţinute sunt publicate în 22 lucrări ştiinţifice.

Cuvinte-cheie: competenţă, competenţă informaţională, transfer vertical, activităţi curriculare, activităţi extracurriculare, şcoală profesională, metodologie.

Domeniul de studiu: Ştiinţe pedagogice. Didactica şcolară (pe trepte şi discipline de învăţământ)

Scopul cercetării: fundamentarea teoretică, elaborarea şi verificarea experimentală a unui model didactic care vizează formarea şi dezvoltarea competenţei informaţionale a elevilor din şcolile profesionale prin intermediul activităţilor curriculare şi extracurriculare.

Obiectivele cercetării: (1) Realizarea unei analize şi generalizări teoretice a genezei şi etimologiei conceptelor abordării bazate pe competenţe; precizarea conceptelor de „informaţie", „competenţă"; identificarea caracteristicilor esenţiale ale competenţei informaţionale la elevi din şcolile profesionale; (2) definirea obiectivelor de formare şi funcţiilor competenţei informaţionale; descrierea compoziţiei sale structurale; identificarea unui set de indicatori calitativi ai competenţei informaţionale, care să permită evaluarea nivelului formării acesteia; (3) elaborarea şi argumentarea ştiinţifico-metodologică a modelului didactic şi a metodologiei formării şi dezvoltării competenţei informaţionale a elevilor din şcoli profesionale prin activităţi curriculare şi extracurriculare; (4) verificarea experimentală a eficienţei modelului şi metodologiei elaborate.

Noutatea ştiinţifică şi originalitatea cercetării constă în: a) identificarea principiilor de bază ale organizării procesului de învăţământ, care determină cerinţele de implementare a modelului didactic de formare şi dezvoltare a competenţei informaţionale; b) formularea şi fundamentarea condiţiilor pedagogice cu indicarea limitelor de influenţă a ale acestora cu scopul eficientizarii procesului de formare şi dezvoltare a competenţei informaţionale; c) elaborarea modelului didactic al procesului de formare şi dezvoltare a competenţei informaţionale a elevilor din şcoli profesionale prin activităţi curriculare şi extracurriculare, care este centrat pe blocurile de scop, conţinut, organizare şi formare, evaluare-rezultat.

Rezultatul obţinut, care contribuie la rezolvarea unei probleme ştiinţifice importante, este *dezvoltarea fundamentelor teoretice şi metodologice* ale unui model didactic al procesului de formare şi dezvoltare a competenţei informaţionale a elevilor din şcolile profesionale prin activităţi curriculare şi extraşcolare, care au contribuit la *creşterea eficienţei formării* viitorilor lucrători în *sistemul* de învăţământ profesional tehnic.

Semnificaţia teoretică este determinată în fundamentarea faptului că competenţa informaţională, având o semnificaţie specială în formarea elevilor din şcoli profesionale, satisface cerinţele de multifuncţionalitate, interdisciplinaritate şi multidimensionalitate, ceea ce face posibilă atribuirea acesteia în rândul competenţelor cheie, generale, transversale şi globale.

Valoarea aplicativă a lucrării constă în posibilitatea introducerii modelului didactic dezvoltat în procesul educaţional al tuturor instituţiilor de învăţământ care oferă programe de formare pentru muncitori calificaţi cu unele modificări, ţinând cont de specificul disciplinei citite.

Implementarea rezultatelor cercetării a fost realizată în cadrul unui experiment pedagogic implementat în baza grupelor experimentale din Şcoala Profesională nr. 4, Bălţi. Rezultatele teoretice şi practice ale cercetării au fost publicate în reviste de categorie şi culegeri ştiinţifice; prezentate la conferinţe ştiinţifice internaţionale şi naţionale.

АННОТАЦИЯ

ГРАДИНАРЬ Оксана

МЕТОДОЛОГИЯ ФОРМИРОВАНИЯ И РАЗВИТИЯ ИНФОРМАЦИОННОЙ КОМПЕТЕНТНОСТИ УЧАЩИХСЯ ПРОФЕССИОНАЛЬНЫХ ШКОЛ СРЕДСТВАМИ КУРРИКУЛЯРНОЙ И ЭКСТРАКУРРИКУЛЯРНОЙ ДЕЯТЕЛЬНОСТИ

Кандидатская диссертация педагогических наук. Кишинэу, 2022

Структура диссертации: введение, три главы, общие выводы и рекомендации, библиографический список из 221 наименования, 20 приложений, 141 страницы базового текста, 28 рисунков, 30 таблиц. По материалам диссертационного исследования опубликовано 22 печатные работ.

Ключевые слова: компетенция, компетентность, информационная компетентность, вертикальный перенос, куррикулярная деятельность, экстракуррикулярная деятельность, профессиональная школа, методология.

Область исследования: Педагогика. Школьное образование (по ступеням и учебным дисциплинам).

Цель исследования: Теоретическое обоснование, разработка и экспериментальная проверка дидактической модели, направленной на формирование и развитие информационной компетентности учащихся профессиональных школ средствами куррикулярной деятельности и экстракуррикулярной деятельности.

Задачи исследования: (1) провести анализ и теоретическое обобщение генезиса и этимологии понятий компетентностного подхода; конкретизировать понятия «информация», «компетенция», «компетентность»; выявить сущностные характеристики информационной компетентности учащихся профессиональных школ; (2) определить задачи формирования и функции информационной компетентности, рассмотреть и описать её структурный состав; выявить набор качественных показателей информационной компетентности, позволяющих оценить уровень её сформированности; (3) разработать и обосновать научно-методическим путём дидактическую модель и методологию формирования и развития информационной компетентности учащихся профессиональных школ средствами куррикулярной и экстракуррикулярной деятельности; 4) провести экспериментальную проверку эффективности разработанной модели и методологии.

Научная новизна и оригинальность исследования состоит в следующем: а) уточнены основные принципы организации образовательного процесса, определяющие требования к реализации дидактической модели по формированию и развитию информационной компетентности; б) сформулированы и обоснованы педагогические условия, обозначены границы их влияния в сторону эффективности процесса формирования и развития информационной компетентности; в) разработана дидактическая модель процесса формирования и развития информационной компетентности учащихся профессиональных школ средствами куррикулярной и экстракуррикулярной деятельности, в основу которой положены целевой, содержательный, организационно-деятельностный и оценочно-результативный блоки.

Полученным результатом, который способствует решению важной научной проблемы, является *разработка теоретических и методологических основ* дидактической модели процесса формирования и развития информационной компетентности учащихся профессиональных школ средствами куррикулярной и экстракуррикулярной деятельности, *что способствовало повышению эффективности* профессиональной подготовки будущих рабочих в *системе* профессионально-технического образования.

Теоретическая значимость исследования заключается в обосновании того, что информационная компетентность удовлетворяет требованиям мульти-функциональности, надпредметности, междисциплинарности и многомерности, что позволяет отнести её к ряду ключевых, общекультурных, трансверсальных и глобальных компетентностей современного человека, и подчеркивает её особую значимость для учащихся профессиональных школ.

Практическая значимость исследования состоит в возможности внедрения разработанной дидактической модели в образовательный процесс всех учебных заведений, предлагающих программы подготовки кадров рабочих профессий при некоторой модификации, учитывая специфику преподаваемой дисциплины.

Внедрение результатов исследования осуществлялось в рамках педагогического эксперимента, реализованного на базе экспериментальных групп Профессиональной школы № 4, г. Бэлць. Теоретические и практические результаты исследования были опубликованы в рецензируемых журналах категории и научных сборниках; представлены на международных и национальных научных конференциях.

ANNOTATION

GRADINARI Oxana

METHODOLOGY OF FORMATION AND DEVELOPMENT OF INFORMATION COMPETENCY OF PROFESSIONAL SCHOOL STUDENTS THROUGH CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

Doctoral thesis in educational sciences, Chisinau, 2022.

Thesis structure: introduction, three chapters, general conclusions and recommendations, bibliographic list of 215 titles, 20 appendices, 141 pages of basic text, 28 figures, 30 tables. Based on the results of the dissertation research, 22 scientific papers were published.

Keywords: competence, competency, informational competency, vertical transfer, curricular activity, extracurricular activity, professional school, methodology.

Field of study: Pedagogical Sciences. School Education (on stages and educational disciplines).

Aim of the research: Theoretical foundation, development and experimental verification of a didactic model aimed at the formation and development of information competence of professional school students by means of curricular and extracurricular activities.

Objectives of the research: (1) conduct an analysis and theoretical generalization of the genesis and etymology of the concepts of the competence-based approach; identify the essential characteristics of the information competence of professional school students; (2) specify the concepts of "information", "competence", "competency"; identify the essential characteristics of the professional school students; define the tasks of formation and functions of information competency; consider and describe its structural composition; identification of a set of qualitative indicators of information competency, allowing to assess the level of its formation; (3) development and the scientific-methodological argumentation of a didactic model and methodology for the formation and development of information competency of professional school students by means of curricular and extracurricular activities; (4) conduct an experimental verification of the effectiveness of the developed model and methodology.

The scientific novelty and originality of the study lies in: (a) the clarification of the basic principles of the educational process organization that determine the requirements for the implementation of the didactic model of formation and development of information competency; (b) the formulation and substantiation of the pedagogical conditions, the indication of the limits of their influence on the effectiveness of the process of formation and development of information competency; (c) the development of a didactic model of the process of formation and development of information competency of professional students by means of curricular and extracurricular activities, based on the target, content, organizational and procedural, evaluation-resultative blocks.

The result obtained, which contributes to the solution of an important scientific problem, is the *development of the theoretical and methodological foundations* of a didactic model of the training process and the development of the information competency of students from professional schools through curricular and extracurricular activities, *which contributed to increasing the efficiency* of the training of future workers from the system of technical and vocational education.

Theoretical significance of the study consists in substantiating the fact that information competency satisfies the requirements of multi-functionality, over-objectivity, interdisciplinarity and multidimensionality, which makes it possible to attribute it to a number of key, general cultural, transversal and global competencies of a modern person, and emphasizes its special significance for vocational school students.

Practical significance of the study consists in the possibility of introducing the developed didactic model into the educational process of all educational institutions offering training programs for skilled workers with some modification, taking into account the specifics of the discipline being read.

The implementation of the results of the study was carried out within the framework of a pedagogical experiment, realized on the basis of the experimental groups of the Vocational School No. 4, Balti. Theoretical and practical results of the study were published in peer-reviewed category journals and scientific collections; presented at international and national scientific conferences.

GRADINARI Oxana

METHODOLOGY OF FORMATION AND DEVELOPMENT OF INFORMATION COMPETENCY OF PROFESSIONAL SCHOOL STUDENTS THROUGH CURRICULAR AND EXTRACURRICULAR ACTIVITIES

532.02 – SCHOOL DIDACTICS

(BY STAGES OF EDUCATION AND DISCIPLINES)

Summary of the Doctoral Thesis in Pedagogical Sciences

Approved for printing: 27.05.2022	Paper size 60x84 1/16
Offset paper. Offset printing.	Printing 20 ex.
Printing sheets.: 2,1	Order no. 1006.

Typography USARB, Puskin 39 street, Balti, MD-2069