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## **ADAPTIVE MANAGEMENT OF DEVELOPMENT OF THE DEPARTMENT SYSTEM OF INSTITUTES FOR POSTGRADUATE EDUCATION IN UKRAINE: THEORY AND PRACTICE**

***Abstract.** The article presents a new solution of the problem concerning adaptive management of development of the department system of institutes for postgraduate education in Ukraine. The analysis of the methodological bases of adaptive management allows to identify and substantiate the functions, laws, principles and methods reflecting development of the IPPE department system. The conceptual model of adaptive management of the department system has been developed, its content, criteria of relations between purpose-oriented and self-regulated activities of employees and departments, tools for the department system regulation and the technology for the model implementation have been theoretically justified. It has been determined that the most effective mechanism for evaluating the quality of performance of the IPPE department system is educational monitoring. To monitor the effectiveness of the department system, appropriate tools have been developed. They present a complex of qualimetric submodels of development of all structural subdivisions, which includes submodels of managing the development of activities of rector, vice-rector, head of IPPE department, department, section, methodological structural subdivision, professional development of academic staff member, submodels of academic achievements of students / trainees of the IPPE.*

## **Introduction**

The transformational processes taking place in the education system of Ukraine in the context of European integration considerably complicate management of a modern educational establishment and set principally new tasks before its administration. These issues became especially urgent for the heads of institutes for postgraduate pedagogical education (IPPEs). These educational establishments as an object of management significantly differ from both pedagogical higher educational establishments (HEEs) and institutes for postgraduate education. The main functions of IPPEs are the improving of professional skills and retraining of teaching staff. But their experience shows that they perform the function of regional scientific and methodological centers of the Main administrations of education and science of regional state administrations, which provides organizational and methodological support to the educational process in preschool, general educational and out-of-school educational establishments of the region. Therefore, in order to improve the existing systems for managing the development of IPPEs, there required appropriate legislative and scientific frameworks, which will provide normative and methodological basis for their prospective development, taking into account the specifics of their activity. We should note that the changes taking place in the domestic system of postgraduate pedagogical education are based on the provisions of the Constitution of Ukraine (1996), the Laws of Ukraine “On Education” (1991), “On Higher Education” (2014), “On Scientific and Scientific and Technical Activity” (2015), the Draft Concept for the Education Development for the Period 2015-2025 (2014), the Concept of the Development of Post-Graduate Education (2002), etc.

As regards the scientific framework, the analysis of the scientific works whose research object was institutes for postgraduate education in Ukraine allowed to single out several research directions.

*The first direction:* analysis of educational institutions as an integrated open system capable of self-regulation, self-organization and self-development (V. Afanasyev, V. Budanov, V. Kelle, V. Kremen, M. Kagan, V. Luhovyi,

D. Gushchin, D. Gushchin, I. Prigozhin, K. Rayhert, A. Ursul, A. Uyomov, G. Haken, V. Yadov).

*The second direction:* theoretical and methodological studies of adaptive management in education as an effective way of managing open systems in an unstable situation: the essence of adaptive management, its laws and principles (G. Yelnykova, T. Borova, N. Boyaryntseva, S. Mitin, G. Polyakova, Z. Ryabova, P. Tretyakov, L. Fesik, and others).

*The third direction:* theoretical and methodological bases of professional activity of academic staff of institutes for postgraduate education in the context of competence approach (N. Bibik, L. Vashchenko, I. Zymnya, O. Lokshyna, O. Ovcharuk, O. Savchenko, O. Pometun, L. Khoruzha).

*The fourth direction:* management of an institute for postgraduate pedagogical education (L. Vashchenko, A. Bodnar, G. Dmytrenko, V. Maslov, V. Oliynyk, V. Pikelna, L. Pokroeva, M. Potashnyk, T. Sorochan, P. Tretyakov).

However, despite a wide range of scientific studies considering various aspects of adaptive management of social and pedagogical systems, there is still no holistic study of the theory and technology of adaptive management of IPPE development.

*The purpose of the research* is to develop a scientifically substantiated *system of adaptive management of IPPE department system development*, which would integrate an effective interaction of subjects of organizational and pedagogical activity at all levels of IPPE management into the institutional department system with consideration for the tendencies of its development under modern conditions and its practical approval.

### **Theoretical bases of development of the department system in the structure of institutes for postgraduate pedagogical education**

Today postgraduate pedagogical education, as a component of continuous education, is intended to maximally satisfy the professional, social and cultural needs of practicing teachers, encourage them to continually perfect themselves in terms of professional and personal development. It should be noted that *the modern system of postgraduate pedagogical education in Ukraine* is an integral social institute in the

unity of its structural elements and directions of its activity (socio-economic, psychological and pedagogical, scientific and theoretical, practical and applied, methodological, managerial); an organic component of the system of continuous education, the further development of which is possible upon condition of its relations with other components of the educational sphere; the system of advanced training and retraining of qualified specialists; a form of adult education based on their individual needs for obtaining certain knowledge, skills and abilities, personal and professional growth [5].

In the Law of Ukraine “On Higher Education” (2014), a higher educational establishment is defined as a complex system with a corresponding organizational structure of management — certain composition of administrative subdivisions and their interrelations. Structural divisions of a higher educational establishment (university, academy, institute, college) are departments, faculties / institutes, libraries, separate structural subdivisions, etc. [4].

In the history of postgraduate pedagogical education the emergence of departments was conditioned by the increased requirements to the professional competence of teachers.

Taking into account the terminological uncertainty inherent in the system of postgraduate education, we define “*the department of the institute for postgraduate pedagogical education*” as a basic structural subdivision of the institute for postgraduate pedagogical education providing educational, methodological and scientific services for certain categories of academic staff members (including administrators, which comprises no less than five teachers for whom it’s a principle place of work, no less than three of them having a scientific degree or a scientific (honorary) title”.

The IPPE department acts as a consolidating center in developing and implementing tasks of the institute, which involves its close interaction with all its structural subdivisions. The existing linear functional structure of management in institutes for postgraduate pedagogical education is characterized by stable system-

forming ties and relations that provide stability and equilibrium of the system, interaction and subordination between its elements [4].

Problems observed in management of development of IPPE departments are related to the influence of the external and internal environment on the actual and desired results of their activities. If the level of professional knowledge of students / trainees in the departments is significantly different, this indicates that there are problems caused by the imperfection of the training technologies or the low professional competence of the academic staff of the departments. This requires working out a special program of action aimed at solving the tasks set, which involves those structural subdivisions of the department system whose interests overlap or coincide. Accordingly, the goal is agreed upon and there defined common tasks, in the implementation of which the partial goals, organization of the activity, technologies, and conditions of the educational process are adjusted to solve a certain problem in a changing environment. An example of this can be the program for the implementation of the research and educational project, which is elaborated by the entire staff of the IPPE [7].

Programs of changes that are worked out at the department level by one department can require elaborating programs of changes in the activities of all subordinate structural subdivisions, independent methodological subdivisions. In turn, this may require changes in the work of other departments.

Openness of the interaction between departments and subordinate structural subdivisions (for example, sections) and independent methodological subdivisions of the institute is ensured by availability of employees' individual degrees of freedom. Such joint activity of all structural subdivisions of regional institutes for postgraduate pedagogical education (RIPPEs) creates a system of network interaction, which has an impact on activities of the department directing its development. This necessitates creation of *a new organizational and structural model of network interaction of all participants in the educational process, which is considered as a system of interdependent actions of the academic staff aimed at implementing joint activities.* The very system of network interaction between the departments, between the

subordinate methodological subdivisions and independent methodological subdivisions emerges as a result of *formation of vertical and horizontal subordination and coordination relations* [7].

*Vertical relations* arise between *head of department and administration* (heads of departments are members of the Rectorate that addresses administrative issues of organization and management of activities of structural subdivisions to implement the tasks set by the management); *head of department and members of academic staff of department*.

*Horizontal relations* — between *heads of departments* during the implementation of common tasks in the educational and research activity (cooperation in preparing curricula and syllabi, implementation of research projects by departments (integration of scientific research), work in the Scientific Council of the institute; *between members of academic staff of departments* (cooperation in the issues related to teaching disciplines, preparing methodological support for activities of departments, discussing scientific works and study guides to be submitted to the Scientific and Methodological, and Academic Council for consideration and approval); *between head of department and head of section* at coordinating views as to the content of academic disciplines and planning joint measures aimed at implementation of educational innovations; *between head of department and heads of laboratories, centers and divisions* in issues of organizing and conducting research and experimental work, methodological support of innovation activity of educational establishments of the region. There constantly takes place the horizontal interaction between the staff of departments and methodological structural subdivisions, which involves combining efforts to conduct scientific and methodological measures of different levels, counseling, etc.

Proceeding from this, in scientific use there introduced the concept of “*IPPE department system*” as an integral formation comprising interdependent departments (together with structural subdivisions) and independent methodological centers and subdivisions of the institute having interdependent and mutually agreed ties that can be used for combining efforts to achieve the tasks set within the educational,

*methodological, scientific activity.* Success in the development of the IPPE department system is ensured upon adhering to *the following conditions*: flexibility of organizational schemes for managing the development of the department system and promptness of its organizational changes; introduction of innovations in the educational activity of institutes for postgraduate pedagogical education; provision of departments with highly professional, competent academic staff; informational support for the department system development; application of results of marketing and monitoring researches. These conditions make it possible to identify and formulate specific management objectives of development of the IPPE department system (educational, methodological, research, marketing, managerial, economic and business ones) and track the changes that take place as a result of management in the activities of departments in particular and the department system as a whole. Therefore, *“organizational and structural development of the IPPE department system” is purpose-oriented changes in the composition and structure of the internal environment of the department system (of department, laboratory, section, methodological center, division, etc.) with the aim of ensuring high quality education by satisfying the learning needs of trainees and competitiveness of the departments in the market for educational services based on marketing analysis. At the present stage, the main tasks of the IPPE department system are: providing a unified innovation policy in all spheres of the department activity; determining the composition of functional services and subdivisions for performing the set short-term or long-term tasks based on a clear alignment of interests of several heads of structural subdivisions of the department system that claim to have access to the same resources.*

### **Conceptual bases for implementing the model of adaptive management of development of the department system in institutes for postgraduate pedagogical education**

Issues concerning adaptive management of systems in the sphere of education are of great importance for our study, in particular the defined concepts of adaptive management, its laws and principles (G. Yelnykova); studies considering adaptive

management of pedagogical systems (P. Tretyakov, S. Mitin, N. Boyaryntseva); adaptive management techniques (G. Yelnykova, G. Polyakova, V. Petrov, I. Lapshyna). Provisions of educational monitoring based on factor-criterion modeling are essential in the conceptual aspect (G. Yelnykova, O. Kasyanova and Z. Ryabova).

By analyzing the theory and practice of adaptive management, its characteristics and distinctive features are identified.

*Adaptive management* is a process of mutual influence resulting in mutual adaptation of the behavior of subjects of activity on the dia(poly)logic basis provided by a common definition of a realistic goal with the subsequent combination of efforts and self-direction of them towards its achievement [2]. *The basic feature of adaptive management is mutual adaptation and organic combination of the goal of the head and the aspiration of the performer on the basis of developing flexible models of their activity.*

Unlike traditional management, adaptive management implies determination of the priority direction in the development, which is implemented through self-organization processes. Adaptive management arose as a result of the need for a directed self-organization of a person, which ensures his/her conscious self-development using the natural mechanism. It can be specially organized on the basis of creation, support, and expansion of the conditions of self-development of the management objects within the limits established jointly with the subject and the requirements recognized by them, but it always emerges arbitrarily at any transitional stage as an objective need combining the evolutionary and revolutionary ways of development [2]. Adaptive management is a kind of situational. It always coordinates two inherently different phenomena, and, therefore, its systematization can be specified in the following way: by the subject of management — combines administrative and participative (collective, unified) management; by the nature of influence — combines external management with internal (self-management); by orientation — process- and purpose-oriented, because it focuses both on the process and on the result [3]. By the direction of mutual influence, adaptive management is

simultaneously vertical and horizontal, and by the order of interaction it is both subordinate and distributed. The driving force of development of such a management system is balance of the interests of all its participants and substructures. This management system ensures harmonization and adaptation of cross-cutting goals of management of the IPPE department system at all its levels: trainee / student — teacher; teacher — teacher; teacher — head of the department; head — head; head — head of the methodological subdivision; head — vice-rector / deputy director; vice-rector / deputy director — rector / director.

G. Yelnykova notes that adaptive management directs subjects of activities towards self-management and self-development [3].

This fact determines the specifics of *functions of adaptive management* of the IPPE department system, in particular the *joint development of a realistic goal, criteria modeling, cooperation of actions and self-direction, self-monitoring of the process and monitoring of the result, predictive regulation by the result*.

The realization of the function of “*joint development of a realistic goal*” is achieved by reconciling the goals of the departments and methodological subdivisions comprising the department system, making an informed decision on the implementation of the goals set. The “*criteria modeling*” function is carried out through selection of criteria and creation of flexible models of activities of structural subdivisions of the department system. The function of “*cooperation of actions and self-direction*” involves elimination of inconsistent and competing actions based on dialogic adaptation; cooperation and self-direction for achievement of the jointly defined goal through development of partner relations between all subjects of the management process, managers and subordinates (direct interaction within the team), combination of efforts of all subsystems of the department system for implementation of the tasks set. The function of “*self-monitoring of the process and monitoring of the results*” is implemented by means of transformation of the control function through coordination of external and internal influences, provision of external monitoring by the administration at the “input” and “output”; internal self-monitoring of the process of implementing the tasks; support of the processes of self-organization and self-

development of structural subdivisions of the department system in all spheres of their activity; supporting self-control of the process with its current adjustment. The function of “*predictive regulation by the result*” is realized by identifying the unused reserves; inclusion of relevant criteria in the submodel; joint decision-making and joint forecasting of the way of further development [3].

The analysis of the methodological principles of adaptive management makes it possible to single out and substantiate its *regularities* reflecting the development of the IPPE department system, in particular the department system development will be more productive if its natural mechanisms are activated; the effectiveness of adaptive management of the department system development depends on the degree of coherent convergence of different points of view of the interacting parties on the basis of dialogic coordination; the more optimal the correlation of the directing influences of the control system and the conscious self-direction of the controlled subsystems are, the more qualitatively the adaptive management of the department system development is; effectiveness of adaptive management of the department system development is directly dependent on the marketing and monitoring support of the interaction of the control and controlled subsystems and their reflexive development; quality of adaptive management of the department system development depends on the strengthening of subjectivity of the relations, partnership relations and implementing the purpose-oriented impact of the control subsystem; the higher the level of the current mutual adjustment of the activity of the control and controlled subsystems based on the action of “information pulsar” with direct communication and feedback, the higher the level of purpose-orientation of adaptive management of the department system development.

The analysis of scientific works confirmed the existence of a certain set of principles of adaptive management, which made it possible to single out those *principles* that reflect the *development of the IPPE department system*, namely the principle of *priority recognition of human development and the defining character of the natural way of its implementation*, which provides free development giving the best result; the principle of *openness* in adaptive management implies, firstly, the

openness of internal communication through removal of the psychological barrier for all participants in the management process, which is an essential condition for cooperation of actions, secondly, this principle emphasizes the openness of external relations; the principle of a *directed self-organization* is based on a fuller using of the intellectual, moral and psychological reserves of management, which is achieved through transferring to all structural subdivisions the authority for directing the department system development; the principle of *cooperation* involves organization of vertical and horizontal coordination of joint actions in the management system to achieve the common goal, which helps to coordinate the interaction on the basis of dialogic adaptation through mutual adaptation of the purpose-oriented functions of all subjects of management; the principle of *marketing and monitoring* emphasizes the need for ongoing self-analysis and self-direction of the development process towards achieving the required result from the performers and conducting external periodic analysis to monitor the dynamics of changes by the administration; the principle of *qualimetry* in adaptive management implies the quantitative measuring of the quality of work using conditional points.

Based on the above-listed laws and principles of adaptive management of development of the IPPE department system we determined: *general methods of adaptive management, specific methods of adaptive management, methods of development of departments and the department system.*

The main purpose of the *general methods of adaptive management is to support the existing system in terms of its development*: combination of efforts in achieving the common goal, mutual harmonization of the goal settings, creation of a dialogic basis, mutual influence, etc. *Specific methods of adaptive management* include special actions used in adaptive management of development: dialogic adaptation, directed self-organization, criteria modeling, subordinate and intermediate partnership, current adjustment of actions to direct them towards the common goal, flexibility for achieving the goal under changing uncertain conditions, situation of additional orientation, openness of interaction, and natural character of changes. *Methods of development of departments and the IPPE department system* include the

reflection method, methods of self-direction, self-analysis, self-instruction, self-influence, marketing and monitoring studies, ensuring the quality of activities of departments and the department system. To determine the influence of adaptive management on development of the IPPE department system, it is necessary to turn to the general laws of development: *the law of structural transformation, which follows from the general theory of organization and disorganization and the law of similarities and differences of forms, which reveals the nature of development.*

The basis of development is resolution of contradictions. Naturally, this happens by converging different points of view through their dialogic coordination on the basis of coherence (unity of origin). Development can be structural (quantitative) and functional (qualitative). Structural development implies an increase / decrease of structural subdivisions of the department system. Functional development is a change in the functions of structural subdivisions of the department system and in the performance of the system. An effective direction of development through dialogic adaptation can be realized in two ways: saturating the space where the person moves with the required by the society and the state “randomnesses”, or determining the parameters, factors of the motion and drawing up adaptive models of the activity, ensuring their adaptation to “oneself” by each performer. The process of activity can get free development due to the use of self-analysis and self-adjustment.

Based on the organizational structure of the IPPE department system, two directions of its development were identified: *extensive (quantitative structural changes) development* — expansion of structural subdivisions of the department system; *intensive (qualitative changes) development* — activization of using the resource potential, achievement of a qualitatively new state of the departments.

The defined features of adaptive management have allowed to substantiate the concept of “adaptive management of the development of the IPPE department system” as a cooperation between the control and controlled subsystems, which takes place on the basis of coordination with the coaching of the strategic goal of development of the institute and specific goals of its subdivisions, motives and opportunities of participants in the educational process, coordination of requirements

of the market for educational services, demands and professional experience of trainees with the content of the provided educational services and mobile transformation of leading (graduate) departments for improving the level of professional competence of students / trainees and ensuring their competitiveness in the labor market”.

The process of management of the department system is an integral part of management of social systems, which, from the scientific point of view, can be defined as a purposeful interaction of the controlled and control system for regulating educational activity in institutes for postgraduate pedagogical education with the aim of transferring it to a higher level of development. To regulate the development of the IPPE department system, it is necessary:

1. Define a common strategic goal of the institute for postgraduate pedagogical education, decompose it into components in accordance with the specifics of the activity of departments and independent methodological structural subdivisions of the department system and levels of management.

2. Determine the parameters and criteria for evaluating the components of development that are laid down in the qualimetric model of managing the development of the IPPE department system.

3. Create appropriate qualimetric submodels to be used as the basis of the qualimetric model of department system development that includes managing the development of departments, sections and methodological structural subdivisions by the leading common directions of activity, their specification for subjects of each level of management.

4. Using the qualimetric submodels, to carry out administrative, pedagogical, students / trainees monitoring and self-monitoring for timely regulation of the quality of managing the department system development according to certain parameters and criteria. The submodels will include the factors relevant to the directions of activities and criteria with specifically determined for them indicators.

The algorithm for creating qualimetric submodels of development activity contains the following stages: identifying factors (directions) of activity through

decomposition of its common goals; identifying criteria (components) of activity through decomposition of the activity directions; determining the importance of each factor (direction) and criterion (requirements) of the activity by the expert evaluation method; defining the standard of the activity model with its following standardization. The result of each stage is creating qualimetric submodels of development of the activity of all structural subdivisions that comprise the department system, which are elements of the monitoring of evaluating the effectiveness of the development process of the IPPE department system.

In the course of the study it was determined that *educational monitoring* is the most effective mechanism for evaluating the quality of education, especially the development level of the IPPE department system [1, 3, 7, 8]. The theoretical basis of the monitoring of educational systems comprise the leading scientific approaches, in particular anthropo-social one, where the focus of attention in management is a person; system approach, which allows examining the elements of the system in order to maintain its functioning in a certain condition; synergistic one, the basis of which is the processes of self-organization and interaction under conditions of instability; person-oriented approach, which directs educational processes in accordance with individual peculiarities of the professional activity of academic staff members and educational needs of students / trainees; qualitative one, which gives the possibility of quantitative evaluation of qualitative changes in the development of all subsystems of the department system. To monitor the effectiveness of development of the IPPE department system, we have developed an appropriate *marketing and monitoring toolkit* presented by *a complex of qualimetric submodels of activities of all its components. The complex includes submodels of managing the development of activities of vice-rector, head of IPPE department, department, section, methodological structural subdivision, academic staff member, and the submodel of effectiveness of the process of educating students / trainees of the IPPE. The submodel of managing the development of the IPPE department is determined as the key one and the qualitative matrix of managing the development of the IPPE department system as the resulting one.*

Using the entire set of the created qualimetric submodels allows evaluating the effectiveness of development of the department system and the educational establishment as a whole in order to forecast future actions and make sound managerial decisions. For a quality implementation of the monitoring technology and for the purpose of coordinating and directing the IPPE department system development, it is necessary to have information on the state of activities of all its components. With the help of the developed submodels of activities (Table 1) the corresponding result indicators are determined.

Table 1

**Basic qualimetric submodel for determining the development level of the department system of institutes for postgraduate pedagogical education**

Parameter	Weight – W	Factor – F	Weight – w	Criteria	Value of the conformity coefficient	Value of the conformity coefficient
1	2	3	4	5	6	7
<b>1. Degree of provision of favorable development conditions</b>	0.40	1 Organizational activity	0.37	1. Presence of the department development strategy.	1.00	
				2. Planning of the implementation of joint activities of departments and methodological subdivisions.	1.00	
				3. Correspondence of the department activities to its organizational structure.	1.00	
				4. Document turnover of the departments.	1.00	
				5. Timeliness and promptness of the tasks implementation.	1.00	
		2 Staffing	0.63	6. Provision of the qualitative structure of the department academic staff	1.00	
				7. Professional development (self-development) of the academic teaching staff of the departments.	1.00	
				8. Demand for teachers of the departments in the market for educational services.	1.00	
				9. Social and professional mobility of the academic staff.	1.00	
				10. Self-education of the teachers.	1.00	
				11. Organization of certification of the academic	1.00	

<b>2. Degree of achievement of the development goal</b>	0.60	3 Educational activity	staff members.			
			12. Presence of the academic staff incentive system.	1.00		
			13. Structure of the educational process and its planning by the departments.	1.00		
			14. Compliance of the higher educational establishment standards of training and advanced training of teachers with the requirements of the labor market and the market for educational services.	1.00		
			15. Degree of correspondence of the curriculum of a specialty (category), curricula, syllabi to the state requirements, needs and professional interests of students / trainees.	1.00		
			16. Presence of dynamics of the variable component of professional training of students and improvement of students' skills in line with changes in the demand in the labor market and the market for educational services.	1.00		
			17. Introduction of modern information and communication technologies: cloud technologies, development and use of computer application programs, availability of video and computer funds, etc.	1.00		
			18. Methodological support for distance learning.	1.00		
			19. Correspondence of the system of evaluation of academic achievements of students /trainees to the state and international requirements.	1.00		
			20. Level of rendering educational services	1.00		
		4 Methodological activity	0.25	21. Degree of provision of educational disciplines with teaching materials.	1.00	
		22. Effectiveness of work of the departments, methodological subdivisions, the Educational and Methodological Department and the Methodological Council in terms of methodological support of the educational process of advanced training courses.		1.00		

		23. Methodological support of laboratory and practical classes, course projects, independent work of students / trainees, including distance forms of learning.	1.00		
		24. Use of modern methods of teaching academic disciplines.	1.00		
		25. Level of publishing activity to provide the educational process with educational and reference literature.	1.00		
		26. Effectiveness of participation in joint activities aimed at implementation of program and purpose-oriented projects	1.00		
		27. Provision of expertise, analysis, review of author's programs.	1.00		
	5 Scientific activity	0.25	28. Implementation of the research project.	1.00	
			29. Presence of integration relations in scientific researches.	1,00	
			30. State of implementation of the programs for research and experimental work.	1.00	
			31. Effectiveness of implementation of the program and purpose-oriented projects.	1.00	
			32. Availability of the plan of work for permanent purpose-oriented groups (PPOG) or permanent creative groups (PCG) and effectiveness of its implementation.	1.00	
			33. Quality of publication of educational, educational and methodological, and scientific products.	1.00	
			34. Participation in professional competitions and international projects.	1.00	
			35. Participation in regional, city, All-Ukrainian scientific and methodological seminars, symposiums, conferences, plenary sessions, etc.	1.00	
	6. Consulting and marketing activity	0.23	36. Information and marketing support of department management.	1.00	
			37. Availability of the information bank for scientific and methodological educational services.	1.00	

			38. The nature of the relations between the departments of other higher educational establishments and institutes for postgraduate pedagogical education.	1.00	
			39. Competitiveness of the department in the market for educational services.	1.00	
			40. Organization of advertising and information activities.	1.00	
			41. Implementation of the program of branding activity.	1.00	
			42. Introduction of educational marketing technologies.	1.00	
	1.00	Total score	1.00		

If the total score is within the following limits:

- up to 0.5 — the level of development does not meet the expectations of the administration;
- from 0.5 to 0.65 – the level of development is sufficient;
- from 0.65 to 0.75 — the level of development is optimal;
- from 0.76 to 1.00 — the high level of development that meets the expectations of the administration.

In order to experimentally verify the effectiveness of the model of adaptive management of IPPE department system development, the elaborated model was introduced into activity of five regional institutes for postgraduate pedagogical education. There were chosen 629 students / trainees, 57 teachers, 25 heads of departments to participate in the experiment. The comparison was carried out on the results of the activities the IPPEs for the period from 2009 to 2014.

The annual evaluation of the development level of the department system of institutes for postgraduate pedagogical education with the help of a corresponding qualimetric model indicates a general increase in its indicators (Table 2). Analyzing the summary indicators of the development level, it can be noted that the largest increase (9 %) was received in the areas of scientific, consulting and marketing

activities. The organizational activity had a growth of 3 %, the educational activity — 6 %, the methodological activity — 6 %. The analysis of the given data by all directions of work in general shows the obtained gain of 35 %, which testifies to the positive influence of the introduction of the elaborated model or determining the level of the department system development in the activity of the institute for postgraduate pedagogical education.

Table 2

**Generalized data on monitoring the development level of departments of the institute for postgraduate pedagogical education**

Factor – F	Partial valuation of factors				
	2009–10 academic year	2010–11 academic year	2011–12 academic year	2012–13 academic year	2013–14 academic year
1. Organizational activity	0.13	0.15	0.16	0.16	0.16
2. Staffing	0.24	0.24	0.25	0.25	0.26
3. Educational activity	0.10	0.12	0.14	0.15	0.16
4. Methodological activity	0.09	0.12	0.14	0.14	0.15
5. Scientific activity	0.06	0.08	0.10	0.14	0.15
6. Consulting and marketing activity	0.01	0.03	0.06	0.09	0.10
The total score in unit fractions	0.63	0.74	0.82	0.93	0.98

Carrying out an analysis with the help of qualimetric models allows to conduct the tracking and timely adjustment of the development process of the department system.

**Conclusions**

The paper presents a new solution to the problem of adaptive management of development of the IPPE department system, which was embodied through modeling the system of adaptive management of qualitative (intensive) and quantitative

(extensive) development of IPPE structural educational and methodological subdivisions with the establishment of corresponding interrelations between them and through the technology of implementation of such a system. The results of the study gave grounds for the following conclusions:

1. The analytical review of the literary sources and the existing legislative and regulatory framework for activities of higher educational establishments, which include IPPEs, made it possible to formulate the following key concepts of the research: “the department of the institute for postgraduate pedagogical education”, “the IPPE department system“, “adaptive management of development of the IPPE department system” for introducing them into scientific use.

2. It was found that for adaptive management of development of the IPPE department system it is necessary to elaborate a conceptual model that would include the theoretical bases of adaptive management and take into account the peculiarities of activities of institutes for postgraduate pedagogical education, criteria, indicators and tools for tracking the results of the development of activities carried out by all subsystems of the department system, and the technology for implementing the model of adaptive management of IPPE department system development.

The result of introducing the model of adaptive management of department system development into activities of institutes for postgraduate pedagogical education showed that the elaborated qualimetric submodels of managing development of departments, submodels of activities of the department head, management of professional development of a teacher, activities of employees of methodological subdivisions, development of professional competence of trainees and managerial competence of the heads of educational establishments, activities of the vice-rectors of institutes for postgraduate pedagogical education ensure the implementation of uniform requirements to activities of departments and methodological subdivisions, students / trainees, academic staff members, the heads of structural subdivisions of the department system and the administration of the institute, who directs the staff in the preset direction of development. It is simultaneously a way of integrating management of the department system in order

to improve the quality of work of the academic staff of the IPPE, which is at the stage of development.

The conducted research does not cover the entire diversity of problems concerning adaptive management of development in the system of postgraduate pedagogical education. In particular, attention should be paid to such issues as: formation of managerial competence of the administration in the context of adaptive management of IPPE development; reflexive development of participants in the management process as a result of self-regulation and self-organization of educational activities of the IPPE, etc.

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