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Conceptual and essential content of adaptive management of educational systems

Pojęcie i znaczenie adaptacyjnego zarządzania systemami edukacyjnymi

Abstract

The article deals with the methodological foundations of the development of the adaptive management theory combining two aspects of being: logos and chaos. The general property is noted for all phenomena of being to appear a self-organization (the ordered structure emerges from chaos). It turns out, that two facing forces act in the process of self-organization and self-development particularly destructive and creative one. The continuous process of development causes the necessity of permanent control (monitoring) and current adjustment of the process to prevent the transformation of the creative force into a destructive one. It is noted that the described processes are explained by the theory of instability underlying the science of synergetics. The article covers four stages of directed self-organization as the adaptive actions underground of educational processes subjects, namely: destabilizing, orientational (includes dissipative and cooperative sub-stages), organizational and productive one. It is pointed out that the system development is optimal under the self-direction. Adaptive management is regarded as the interaction of a subject and object resulting in the interoperability of their behavior on a dialogical basis and efforts combination to self-directed actions towards a jointly defined actual result. It is argued that adaptive management syncretizes external management and self-management providing a natural way of its implementation. If rigid management is characterized by external influence, and self-management be instantiated by directed self-influence, then adaptive management is characterized by self-influence based on the cooperative actions of managers and performers. The algorithm-cycle of adaptive control, adaptation types of the actors and the mechanism combining actions of the head and executors are considered. The realistic objective of the activity and the process of making a managerial decision carrying out in four stages are separately distinguished. It is determined that the stated theoretical foundations of adaptive management will facilitate its introduction into the activity of the subjects of educational institutions management.

Keywords: adaptive management, realistic objective, self-influence, self-organization, directed self-organization, creative and destructive forces, self-management, logos and chaos, integration of efforts.

Streszczenie

W artykule poruszono temat metodologicznych podstaw rozwoju teorii adaptacyjnego zarządzania, na który składają się dwa aspekty istnienia: logos i chaos. Ogół istnienia jest znany z procesu samoorganizacji (porządek powstaje z chaosu). Okazuje się, że dwie przeciwstawne siły biorą udział w procesie samoorganizacji i samorozwoju, łącząc destrukcję i tworzenie. Wciąż zachodzący proces

rozwoju powoduje potrzebę stałej kontroli (monitoringu) i dostosowywania się procesów, aby przeciwdziałać transformacji siły twórczej w destrukcyjną. Opisane procesy wyjaśnione zostały w teorii niestabilności podlegającej nauce synerгии. W artykule zaprezentowano cztery stopnie samoorganizacji jako adaptacyjnego działania w procesie edukacyjnym: destabilizację, orientację (składającą się z fazy rozproszonej i kooperacyjnej), organizację i produktywność. Podkreślono, że system rozwoju jest optymalny w procesie samokierowania. Adaptacyjne zarządzanie jest postrzegane jako interakcja przedmiotu i podmiotu, skutkująca interoperacyjnością zachowania na bazie dialogu i połączeniem wysiłków z samodzielnymi działaniami w celu wspólnego zdefiniowania rezultatu. Postuluje się, że adaptacyjne zarządzanie łączy zarządzanie zewnętrzne i samozarządzanie, zapewniając naturalną drogę jego implementacji. Ścisłe zarządzanie można scharakteryzować jako wpływ zewnętrzny, a samozarządzanie opiera się na samokierowaniu. Wobec tego zarządzanie adaptacyjne stanowi samozarządzanie oparte na kooperatywnym działaniu nadzorujących i wykonawców. Wzięto pod uwagę cykl algorytmiczny kontroli adaptacyjnej, typy adaptacji oraz mechanizmy łączące działanie kierowników i wykonawców. Wyróżniono realistyczny cel działalności oraz czteroetapowy proces podejmowania decyzji zarządczej. Zdecydowanie można stwierdzić, że wyznaczone teoretyczne podstawy zarządzania adaptacyjnego ułatwią jego wprowadzenie w aktywność podmiotów zajmujących się zarządzaniem edukacyjnym.

Słowa kluczowe: zarządzanie adaptacyjne, realistyczny cel, samokierowanie, samoorganizacja, kierowana samoorganizacja, siły twórcze i destrukcyjne, samozarządzanie, logos i chaos, połączenie wysiłków.

Urgency of the research. The challenges of modernity emphasize the need to develop a special type of management based on interaction, which would promote the conscious self-directing of actions to achieve a socially significant real objective¹.

The given issues are considered in the works of O. Bohdanov², E. Husynskyi³, H. Danylenko⁴, N. Kapustin⁵, V. Lutai⁶, H. Nikolis, I. Pryhozhin, I. Stingers⁷, T. Santalainen⁸, P. Tretiakov⁹, A. Uiomov¹⁰, etc.

¹ Vzaïemodiïa subiektiv upravlinnia profesiino-tekhnichnoiu osvitoiu: teoriïa i praktyka: Monografiïa. – K.: Pedagogichna dumka, 2012. – 304 p.

² A.A. Bogdanov, Tektologïïa. Vseobshchaïa organizatsyonnaïa nauka: Kn. 1, 2. – M.: Ekonomika, 1989. – 655 p.

³ E.N. Gusynskyi, Postroenie teorii obrazovaniïa na osnove mezhdistsiplinarnogo sistemnoho podhoda. – M.: Shkola, 1994. – 184 p.

⁴ Indeksna otsinka faktoriv vnutrishnyoshkilnogo seredovyshcha: Metod. rekomendatsii /Uporiadnyk H.M. Danylenko. – Kh.: UNDI OZDP, 1997. – 24 p.

⁵ N.P. Kapustin, Pedagogicheskie tehnologiiï adaptivnoi shkoly: Ucheb. Posobyie. – M.: Yzdatel'skyi tsentr "Akademyïa", 1999. – 216 p.

⁶ V.Y. Knorring Iskusstvo upravleniïa: Uchebnyk. – M.: BEK, 1997. – 288 p.

⁷ V.S. Lutai, Filosofiïa suchasnoi osvity: Navchalnyi posibnyk. – K.: MagistrS, 1996. – 256 p.; A.H. Maminonov, Upravlenie i informatsiïa. – M.: Nauka, 1975. – 273 p.

⁸ H. Nikolis, Y. Prigozhyn, Samoorganizatsiïa v neravnovesnykh sistemakh: Ot disipativnykh struktur k uporiadochennosti cherez fluktuatsii: Per. s anhl. V.F. Pastushenko. – M.: Mir, 1979. – 512 p.

⁹ Y. Prigozhyn, Y. Stynhers, Poriadok iz khaosa: Novyi dialog cheloveka s prirodou /Per. s anhl. Yu.A. Danilova; Obshch. red. V.Y. Arshynova, Yu.L. Klimontovicha i Yu.V. Sachkova. – M.: Progress, 1986. – 432 p.

¹⁰ T. Santalainen i dr. Upravleniye po rezul'tatam: Per. s fynsk. Obshch. red. y predysl. Ya.A. Leimanna. – M.: Yzd. hr. "Progress", 1993. – 320 p.

The authors reveal the problems of tectology, pedagogical systems based on the interdisciplinary approach, factors index estimation of the internal school environment, technologies of adaptive learning, philosophy of modern education, self-organization in non-equilibrium systems, results management, general theory development of systems, interaction of information and self-organization. The adaptive management issues of pedagogical systems should be distinctly mentioned.

Target setting. Physiotherapeutic intervention is emphasized under the regulation of the participant actions within the educational process in the work of P. Tretiakov and others, what the author of this article objects to and attempts to find mechanisms for self-regulation and conscious self-direction of activities to achieve a socially significant realistic objective. Therefore, the backbone of adaptive management is addressed through the lens of anthropo-social and situational approaches.

The research objective is to disclosure the conceptual and essential content of adaptive management applied in educational systems and grounded on conscious decisions of the educational process participants.

The statement of basic materials. *The theory of instability* is the methodological basis for the development of the adaptive management theory¹¹. It combines the two opposed sides of being as logos (order) and chaos and emphasizes that logos arises from chaos. Such arbitrary occurrence of an ordered structure from chaos (self-organization) is a common property for all phenomena of being. Settled structures may come apart forming a chaos, wherefrom more highly organized settled structures may appear again. Progress always goes beyond regress. The processes of self-organization and self-development proceeds under the interaction of two opposed forces: creative and destructive one. Since self-development processes are marching on, it is necessary in a timely manner to determine when the creative force exceeds its boundaries and turns into destructive force requiring appropriate adjustments.

The theory of instability underlies the science of synergetics. Randomness, instability, fragility are considered as important development factors in the context of synergetics. The problem of development managed from the outside move to the problem of self-management from synergetic viewpoints.

Adaptive management recognizes the priority of the object (subject) development, and it is carried out through the processes of self-organization. These processes are aimed at achieving a common goal taking into account external requirements, internal needs and real circumstances of the current situation.

Thus, the peculiarity of adaptive management is the activation of natural forces and development mechanisms of a human.

In order to realize the targeted exposure of adaptive management to self-organization we will trace its interrelation.

¹¹ A.H. Maminonov, *Upravlenie i informatsiia*. – M.: Nauka, 1975. – 273 p.

We distinguish four stages of directed self-organization from the perspective of synergetics: destabilizing, orientational (includes dissipative and cooperative sub-stages), organizational and productive one. Certain processes leading to a specific result characterize each stage.

Hence, fluctuation processes occur in different directions with different forces of action at the *destabilizing* stage. It is carried out through various activators: initiators, ideas, orders, ordinances, schedule of real circumstances. Multifaceted interventions of activators affect the system stable bonds. The result is a “loosening” of the system, its complete destabilization.

Bifurcation processes proceed at the *orientational* stage. These processes have two sub-levels: dissipative and cooperative. A disruption of connections occurs at the dissipative sub-level as well as a “weeding-out” of individual components of the system. The result of this process is the disintegration of the structure and the “scattering” of the material (components).

Individual bonds of joint action are set in motion at the *cooperative* sub-level, a net force is determined for external and internal affects. Areas of directed action arise. The result is new growths and the system orientation towards a specific direction of development. It manifests in cooperative actions of the realistic objective development that takes into account the exciting directions of all existing impacts on the system.

A certain stabilization characterizes the *organizational* stage. New growths are pulled into ordered (directed) actions at this stage. Many points appear where diverse and multifaceted influences overlap. This is achieved by establishing coherent connections and realizing a single “platform” of action. Activity models (models of mutual understanding) are jointly produced including two components as formalized external requirements and formalized internal needs aimed at achieving the level of aspiration within the limits of perceived external requirements. Thus, external requirements adapt to local features and conditions, which consequently acquire the attributes of reality within the stated limits.

The process of activity self-organization occurs in the chosen direction according to the created model at the same stage. The result is a self-structuring showing up in the normalization of certain methods, actions and its execution sequence to achieve a specific goal.

In order to prevent the transition of creative actions into the destructive the implementation process is accompanied by current self-analysis and self-regulation based on the results of intermediate measurements. In this way, the directed self-influence proceeds ensured by the transfer of controlling authority over the process to the system itself (the executor or the organization).

At the *productive* stage, qualitative and quantitative changes are recorded, self-development of the system is realized taking place through the agency of directed self-influence on the achievement of its goal within the limits established from the outside.

The result is self-development given by the agreed goals of the person (or organization), society and state taking into account the present situation.

In order to understand the essence of adaptive management it is necessary to compare it with other types of this activity: external rigid control, self-management, etc. This can be accomplished by establishing the conformity of actions under the various types of stages management of the directed self-organization. The effectiveness of development depends on the direction power. The greater the direction compulsion, the less goodwill and nature-related development; and vice versa the less compulsion, the greater the goodwill and the nature-related development.

It *may be* deduced, that the system development will be the most optimal under self-direction and of the least optimal under the rigid control from the outside.

The rigid control is relevant to external management, and self-direction is to self-management.

Adaptive management combines external management and self-management directing processes by the natural way of implementation.

All directed processes are occurred from the outside under external management.

An analysis is performed for the situation, the needs of society, the state and the needs of the person (or organization) from the outside. Specific claims are advanced on the individual (organization) activity. Transformation of these requirements is carried out into internal motives administratively through orders, ordinances, instructions, etc. Strict control is accomplished over both the process and the outcomes, weaknesses are identified, and corrective measures are proposed under external management.

Opposite processes proceed under self-management. The direction of action happens by the own will of the performers. This direction begins also from the analysis of the current situation to determine the conditions of actions, to aware own claims and society and the state requirements.

Individual position is determined, tasks are selected a person (or an organization) can perform and intend to perform on the basis of the analysis. The motivational foundation is created for activity due to the mutual adaptation of the real conditions and claims of the performer on the implementation of the selected tasks. In accordance with this, activity model test takes place: choice of ways, methods, operating procedure, performance indicators and methods of its estimation.

The activity is accompanied by self-analysis, self-assessment and self-regulation ensuring directional self-influence.

The activity ends with the conclusion on satisfaction of needs and awareness of qualitative and quantitative changes that have taken place.

As we see, all the directed actions are performed by the system itself (control object).

Adaptive management starts with the external influence of stimuli-activators as various requirements, ideas, and initiatives. An essential prerequisite for adaptive

control is the response of the system (person or organization as the object) against stimulation, that is, the adaptive management includes objects interested in the action of one or another stimulus. As a rule, the action of this external stimulus corresponds to the internal structure of the object, and the stimulus and development direction of the object coincides or corresponds to each other. Resonance is a curious indicator of the beginning of cooperative actions to achieve the objective, which corresponds to the direction of the system (object).

The next step is the dialogic adaptation of all multifaceted influences manifesting itself in the development of a realistic objective under the conditions of additional orientation. The search for additional information, methods of action, development and awareness of the tasks are provided, which ensures the transformation of the external objective into internal motives.

Then there are cooperative actions of managers and performers on the creation of adaptive models and directed self-influence of the system over its implementation.

The process of implementation passes with current self-analysis and self-regulation same as under self-management. The outcomes are analyzed both by the performers (self-analysis) and by the managers (external analysis). Qualitative and quantitative changes are realized, further system development is foreseen.

Therefore, the combination of management and self-management functions is executed as late as at the first rotational stage of the system development under the adaptive management. Influences merely direct actions on the path of self-management down the line.

Thus, rigid control is carried out by the external influence, self-management – by directed self-influence, adaptive management – by self-control directed by the cooperative actions of managers and performers.

Decision-making is the central act in management determining the system development. This process might be considered as a mechanism for advancing the system in a given direction as well as a single act of development. *At the first stage*, there is an accumulation of information on the objective, tasks, conditions, means, techniques, work methods and the difficulties that have arisen.

At the second stage, the logical processing of information is conducted as well as its “sifting” through a logical sieve and selecting the range of issues needed to make a decision. Then the conditions are defined and provided, the circle of people is selected to make a decision. Micro groups are built to compile its various options.

At the third stage, different decisions are elaborated, and its original set is created.

At the last stage, each option is evaluated, thereupon the optimal option is selected, and the decision is made.

The decision-making processes take place at each stage of management, if it is necessary to formulate the objective, to develop an activity model, to evaluate the process or outcome, to draw a conclusion on qualitative and quantitative changes of the object, to predict its further development, etc.

The decision-making processes happen on a cooperative basis by combining the functions of managers and performers (joint actions) under adaptive management. At the same time, mutual influence and dialogue appear causing mutual adaptation of behavior and self-direction of actions to achieve a common goal.

From there, we can specify the above definition of *adaptive management*, namely, as the process of mutual influence causing the mutual adaptation of the actors behavior on the dia (poly) logical basis provided by a common definition of a realistic objective and the subsequent combination of efforts and self-direction of actions towards its achievement.

Adaptive management directs the actors to self-management and self-development, and it is characterized by *thecontent* (of function), *organizational structure* (the direction of mutual influence and the interaction order of the management process participants) and *technology* (sequence of stages, procedure, techniques, methods and means of the mutual co-ordination mechanism: directed influence and the simultaneous release of the freedom degrees for self-development).

In order to determine the content (managerial functions) of adaptive management let's consider its peculiar *cell*, that is an *algorithm-cycle* repeating over each new task.

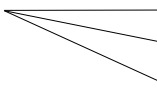
Intrinsic needs arise on solving specific problems of system development (for example, education) in *the external environment*. These needs are stipulated by the situational changes in society, in the relevant field of human activity and so on. An individual put forward new requirements for the environment on the basis of this, and the environment – for the person. Two opposed forces appear as the external and internal stimuli-activators. These stimuli are gradually embodied into two distinct goals (external and internal) united by the global objective of education development.

Thus, there are intrinsic reason for the emergence of the adaptive management, namely, as the rise of an intrinsic need to arrange the inconsistency of the (education) system state with the requirements of the reality; advance of new requests; the emergence of coherent distinct forces: the human purpose, goals of a society and state, requirements of the situation; creation of a certain stress of an individual-environment status.

The stress situation is an unnatural phenomenon and needs regulation. This provokes the next process of awareness and ensuring the realistic objective through the dialogical adaptation. Personal (internal) needs and goals; needs and goals of the society and state; real conditions are analyzed. Old ways of interaction and stereotypes are destroyed. There is a situation of confusion, instability. The person understands, that it can not be as it have been, but he does not know how to coordinate all the existing goals and requirements. After all, an individual can achieve his goals only within the limits of external requirements. Implementation of external requirements is possible only through human activity, its development, and, consequently, through the achievement of its internal goals.

As a result, an awareness of the intrinsic need, the necessity to reconcile all existing goals and requirements causes a situation of additional orientation (search for additional information, mastery of additional actions, etc.)

Hence, the system is preparing for dialogical adaptation at this stage and passes through:

- analysis of the current situation  external objective,
internal objective,
real conditions;
- destruction of the usual interaction methods, stereotypes (the breakdown of established relationships); herewith a situation of instability arises;
- awareness of the inevitability of establishing a coherent interaction of all stimuli taking into account real conditions;
- emergence of a situation of additional orientation.

Additional orientation turns into the creative process of acquiring new knowledge (subjective or objective) and actions predetermining development. A dialogic adaptation is carried out through the acquiring of new knowledge and skills; it may be subordinate or coordinate. Subordinate adaptation arranges the external and internal goals and requirements of the situation on the vertical management. Coordinate adaptation arranges the activities of the management subjects in the horizontal level.

The first one covers the realization stage of the general objective and tasks of the management structure at the given level of management (student, teacher, administration, school, district (city) department (administration) of education, regional administration of education, etc.) to pursue this objective.

The second one covers the stage of the tasks implementation by all participants of the management process (from the student to the regional administration of education).

A process of additional orientation and creative process of acquiring new knowledge and methods of action undoubtedly undergo while implementing dialogical adaptation. As a result of these successive processes, a new coherent objective and a set of adaptive action models are developed to achieve it, and new relationships are established.

Adaptive (elective) activity models are a certain set of actions fully disclosing the responsibilities and functions of an employee or organization. For each group of actions, indicators of its implementation are determined and specific indexes are established in accordance with the existing priorities. Managers represent general functions and its characteristics, executors define partial functions. This ensures the adaptation of the general model to the local conditions and to each individual employee, because the set of functions will be different while performing various tasks (for example, in Japan, the manager does not define or fix the functions of each employee, he does not have a permanent function, an employee should perform any task for the needs of the organization within his competence).

The above-mentioned processes take place under the terms of openness and partnership interaction (co-operation).

The subject-object relations transit from into subject-subject relations under the partnership interaction. There is no manager and subordinate here, but there are partners who cooperate in elaboration of activity models to achieve a coherent realistic objective. Cooperation is possible under the openness of interaction, which is, as it's previously mentioned, characterized by confidence, mutual adaptation to the natural peculiarities of each participant within the managerial process.

Thus, the nature-related direction is determined for the further system development through the transformation of external requirements into internal motives by means of dialogical adaptation and the joint elaboration of a set of activity models at this stage. At the same time the following processes proceed:

- additional orientation of the participants (gathering of additional information and actions);
- creative process of acquiring new knowledge (arranged objective) and actions (activity model) on the grounds of available information analysis and mutual adaptation of different requirements and activity areas;
- obtaining a coherent objective through subordinate dialogical adaptation of goals;
- transformation of this objective into the internal motives of the activity by the process of realizing the possibility of partial (or full) own needs satisfaction within the general objective and feasibility of its achievement;
- creation of adaptive activity models through cooperative interaction (a set of functions is simultaneously portioned within each model).

Beyond that point, there are processes of coordinate arrangement of actions in the horizontal layers of management (coordinate dialogical adaptation). A selection of rational ways is made to achieve the goal through the distinction the optimal model among the set of it. The activity is organized by the virtue of directed self-influence and current self-analysis and self-regulation.

Therefore, a certain stabilization of the system begins by means of the following processes: coordination of dialogical adaptation; determination of the optimal activity model; self-organization of activity by way of directed self-influence; current self-analysis and self-regulation.

The final stage is aimed at identifying performance. Self-control and external control are conducted. Qualitative and quantitative changes are distinguished. The path is foreseen for further development. The appropriate conditions are defined to be created for this purpose.

In order to control, parameters of the object development are cooperatively elaborated as well as criteria for identifying the indicators of this development and the norms of its evaluation in sufficient time in advance. Intermediate results models are also being elaborated. Then the mechanism is determined for tracking changes and its direction to the given model. At the same time, the management system cooperates with executors (managers in relation to their own activities) as follows: the performer himself carries out the tracking process, and the appropriate

management substructure conducts control of the result. The performer executes the current correction of his actions according to the models of intermediate results and self-analysis of the achieved result. The management subsystem controls and analyzes the achieved result according to the model of the ultimate outcome. A joint forecast is conducted for the further system development on this basis.

Thus, the following processes are occurred at this stage: self-control of the result establishing the degree of achievement of the arranged objective; external control of the result; external analysis of qualitative and quantitative changes; joint forecast of the path of further system development.

In view of the previously mentioned, an adaptive management algorithm can be distinguished consisting of seven sequential processes:

1. Emergency of stimulating effects of stimuli-activators and the system response against these excitations.
2. Collection and analysis of information to assess the situation. Awareness of the need to coordinate the stimuli action.
3. Joint development of a realistic objective and its transformation into internal motives.
4. Creation of elective activity models in which administrative bodies introduce general parameters and criteria, and performers conduct adaptation to local conditions and features.
5. Directed self-organization towards performing tasks through the selection and implementation of elective models under the cooperation and coordination of target functions.
6. Current monitoring of the process, self-analysis and self-regulation (process monitoring).
7. Joint forecasting of the further development based on analysis and self-analysis of the outcome.

The content or basic functions can be determined for adaptive control relying on the algorithm. Thus, the first three points reflect the process of joint elaboration of a realistic objective, the fourth point reflects modeling activities, the fifth is cooperation and self-direction, the sixth is self-monitoring the process and monitoring the outcomes, the seventh is a prediction based on the analysis of the result. Consequently, the functions of adaptive management are joint development of a realistic objective, criterial modeling, cooperation and self-direction, process self-monitoring and outcomes monitoring and prognostic regulation. It can be put into shape as a management cycle (Fig. 1).

The central components of adaptive management are the creation of adaptive activity models and tracking the process of its implementation through self-analysis and self-regulation of the process by the executors, analysis and future activity regulation by managers based on the obtained result.

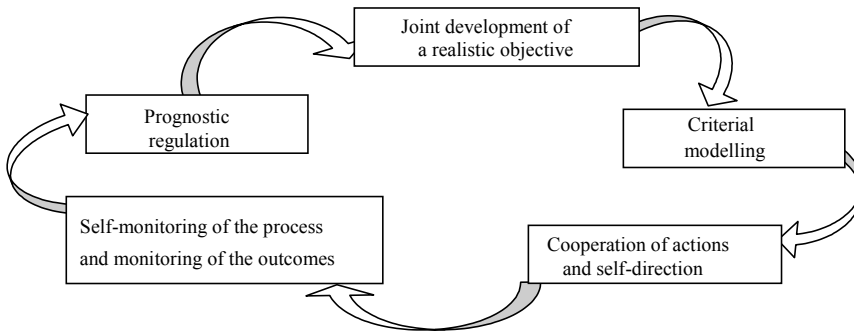


Fig. 1. Functional cycle of adaptive management

Table 1. Characteristics of adaptive management

Content (general functions)	Organization	Mechanism of actions combination (basis of technology)	
	(types and nature of adaptation)	actions of the head	actions of the performers
1	2	3	4
Joint development of a realistic objective	<i>internal adaptation</i> : mutual adjustment of the objective according to external ordinances and internal needs. (Modification of goals). Linear vertical interaction	task adjustment: – for changes of external requirements; – for the needs of the performers.	awareness of the feasibility of the objective through its adjusting under: – circumstances; – method of organization chosen by the head or group.
Criterial modeling	<i>internal adaptation</i> (structural changes): rearrangement of functions while division of powers. (Modification of the structure). <i>Overlap of vertical and horizontal multifaceted ties</i>	– determination of factors, parameters, criteria of its measurement.	– definition of the general form of outcomes within the parameters and criteria; creation of intermediate models.
Co-operation and self-direction of actions	<i>internal adaptation</i> (qualitative changes): relegating performers with new functions which implementation requires new knowledge and skills. (Modification of the subject and object). <i>Interpenetration of vertical and horizontal multifaceted ties, establishment of actions balance and shared responsibility</i>	transfer of freedom degrees (delegation of authority by various means): – tasks, – tasks and provision of conditions for its implementation, – tasks, provision of conditions for its implementation, responsibility for the quality of its implementation.	execution of tasks under the different degrees of self-sufficiency creating situations of additional orientation: – selection of ways to accomplish tasks, – selection of ways to perform tasks and ways to ensure the conditions for its implementation, – selection of ways to perform tasks, ways to ensure conditions for its implementation, self-control over the quality of execution.

1	2	3	4
Self-monitoring of the process and monitoring of the result	<i>internal adaptation</i> (structural changes) the rearrangement of functions while division of powers. <i>(Modification of the organization of interaction methods). Overlap of vertical and horizontal multifaceted ties</i>	<ul style="list-style-type: none"> – transfer of current control authorities over the quality of the task, – input and output control. 	<ul style="list-style-type: none"> – accompanying self-control on a process and a current adjustment in accordance with intermediate models,
Prospective regulation	internal adaptation (dynamic structural transformations); cooperate actions/alternates with delimitation. <i>(Modification of the organization of interaction methods). Alternation of linear vertical relations with split horizontal ties external adaptation. (Modification of the environment). Horizontal split tie internal adaptation (qualitative). (Joint modification of subject and object). Interpenetration of vertical and horizontal multifaceted ties, establishment of actions balance and shared responsibility</i>	<ul style="list-style-type: none"> – evaluation of the result, comparison with self-esteem, – analysis of the real result in comparison with the ideal one, – creation of conditions for the task implementation, – connection to the process of self-management by cooperation with subordinates. 	<ul style="list-style-type: none"> – self-esteem of the outcome, – comparison with the esteem, – definition of further areas for own activity, – creation of conditions for the execution of a task under the terms of delegation the authority for this, – cooperation with the head on the implementation of the entire management cycle, – the adoption of the organization goals as individual goals.

Cooperation of control actions is a characteristic of adaptive management: the executor monitors the current process, the administrative body carries out the analysis of the result, the forecasting of development is the joint actions of managers and performers.

Summing up all of the above said, the characteristic of adaptive control could be presented as follows (Table 1).

Thus, the essence of adaptive management is the actions arrangement of the head and performers through the mutual adjustment of their goal, the combination of target functions and the creation of conditions for the achievement of designated tasks by the nature-related way. The presented theoretical data of adaptive management are designed for application in the educational system management being already introduced by headship and teaching staff in educational institutions of different organizational levels (preschool, secondary, non-formal, vocational, pre-higher and higher education).

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