CLUSTER APPROACH TO FORMING MILITARY AND PROFESSIONAL COMPETENCES

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ABSTRACT: In this article the concept of cluster model for evaluating achievement of military and professional competences and their criteria is considered; the technique of creating the competence model is stated; implementing the given model in educational process of the military higher education institutions for internal troops of the Russian Federation Ministry of Internal Affairs is considered.

KEY WORDS: cluster model, behavioral markers, repertoire lattices, estimated indicators, line of actions.

INTRODUCTION

TODAY to a problem of improving quality of military education is paid the close attention not only by the government, but also by the staff of military higher educational institutions and cadets. Besides, important significance is attached to forming the system of evaluating instruments for all categories of educational process participants (cadets, teachers, and the management of higher education institutions). The effective solution of these questions will allow creating the uniform information space uniting data of various levels into uniform system and providing the solution of problems for monitoring system and increasing efficiency of functioning educational institution.

ABOVE mentioned facts finally will increase public nature of quality management in educational institutions; will provide access to information on quality of educational services and coordination of ideas on education quality among the participants of educational process.

THE traditional model of education is focused on disciplinary differentiation of knowledge in the form of rather autonomous, closed systems of storing information which should be "enclosed" into the heads of students. This model, being mainly closed and

balanced is almost incapable for development, and therefore becomes more and more inadequate to the realities of the world global changes, entering to the era of bifurcation according to E. László. [Arshinov].

REFORMING educational system in Russia there was a necessity for effective development of an innovative component of the Russian system of higher professional education and increasing its competitiveness in the world market of educational services. [Smirnov, 2010 : 92].

Competence approach

RATHER recently in connection with discussions about the problems and ways of modernization of Russian education the concept "competence-based approach" is considered. The appeal to this concept is connected with aspiration to define the necessary changes in education caused by the changes happening in society [Kagakina, 2014]. The ideology of competence-based approach in the higher military professional education assumes that military and professional competences represent systemic and the high level integration into educational process [Zimnya, 2006 : 20-26]. It is necessary to consider the data of educational process from various parties for the purpose to identify a technique for defining knowledge and skills corresponding to the military and professional competences of the department activity (higher education institution). In this article we offer the level approach analysis in relation to studying the discipline and cluster model, as innovative system for evaluating the quality of education. For the solution of this problem it is necessary to consider a number of tasks. Firstly, to define the content of the cluster model concept for evaluating achievement (or not achievement) these or those professional competences. Secondly, to study the possibility of using the cluster model for evaluating achievement of professional competences in military education process.

CLUSTER is an association of several uniform elements which can be considered as the independent unit, possessing certain properties. Cluster model is understood by mutual and self-developing subjects of a cluster "during the work on a problem", carried out on the basis of a sustainable development of the partnership, increasing concrete advantages, both certain participants, and a cluster in general [Koretski].

IN turn, the cluster model for evaluating achievement (or not achievement) these or those professional competences is understood as tool for evaluating professional level of the personnel (the training level of the student). It is expedient to create this model for each professional group separately, so for each of them special professional and personal qualities are important. The model gives the chance to see weak places in the structure of professional competence of the student, and to correct them by individual work with the teacher, the consultations, the additional classes, trainings, and allows seeing the reasons of low learning results at the level of small behavioral markers.

IN our opinion, it is possible to call this model as a cluster and suitable for evaluating personal professional level of students (cadets) and graduates of the military higher education institutions, and representing accurate and detailed tools on its development.

DEVELOPING the cluster model of competence for a certain specialty, in our opinion, can borrow on time about two or three weeks. The ready model is comparable to the list of norms and requirements imposed to a specialty of the graduate of military higher education institution, but in difference from the last represents the special list of norms and requirements

which is picked most precisely up for a successful performance of fighting tasks by internal troops of the Russian Federation Ministry of Internal Affairs. The experts and commanders of cadet divisions (the course officers) who well know their subordinates and possessing a real practical experience in this sphere should be directly involved in creating the model. Besides, the staff of laboratories for professional selection available in each military higher education institution is also engaged in developing the model.

CREATING the cluster model of competences takes place in some stages.

STAGE 1.
Descriptive.

ALL participants of the modeling describe the taken cadet in the concepts of "the behavior helping in study - the behavior disturbing in study". All cadets are characterized in this way. Special attention: it is necessary to describe not qualities of the cadet, but exactly the behavior helping or disturbing in study.

Example: Eduard M., the 4ᵗʰ year cadet.
Behavior helping in study: he is a benevolent, inquisitive, he always finishes the begun business, he is active on classes, often asks questions to teachers in essence of a training material.
Behavior disturbing in study: he is often excessively emotional, roughly endures failures, he can't quickly switch from one subject to another if he failed; he works badly with fighting graphic documents.

HAVING collected similar characteristics on each cadet in one platoon (educational group), we have to construct analog of the repertoire lattice reflecting vision of the ideal graduate of military higher education institution. It can be considered as a positive behavior promoting maximum efficiency, and the vision by contradiction based on the analysis of the behavior disturbing in study.

STAGE 2.
Quality classification.

DIVIDING all qualities important for this platoon (educational group) into clusters and to call them as it is given in an example (Table 1).

Table 1.
The example of quality classification according to clusters

Cluster	Qualities as Behavior Helping in Study
1. High level of military and professional training, creative approaches to solution the fight readiness problems, strengthening the military discipline and troop service.	Assiduity
	Ability to plan the work
	Insistence to himself and to the others
	Ability to conduct conversation, to speak
	Ability to listen
	Aspiration to self-improvement
2. Improving a professional, intellectual, moral and spiritual, physical level of development, maintenance of a model appearance and front	To show desire to work
	To work vigorously
	To be consecutive in work

bearing.	High efficiency
	To work on an order
3. Ability to be moral and psychologically strong in a usual situation and in the situations of increased intensity.	Ability to define priorities of personal activity
	Ability to analyze the results of personal activity
	Ability quickly to be restored after failures

Stage 3.
Conversing the clusters into competences.

After inputting the qualities into the corresponding repertoire lattices, it is necessary to organize a "round table with" with the participating of the commanders of cadet divisions (the course officers), and also the laboratory staff for professional selection and checking correctness and importance of these or those qualities, and also for their adjustment. At this stage usually there are many disputes and disagreements, but the portrait of the graduate (the student) and clearness of the registered qualities will be the most exact. Often during the work of one "round table" is possible to approve one or two professional competences. Here it is necessary to stipulate that within the framework of our approach, we will understand as competence a combination of theoretical knowledge, practical skills and abilities, the personal relation to military service, internal troops and companions. All these qualities reflect an ideal portrait of the graduate of military higher education institution. The name of clusters doesn't define the name of competence, the competence is a broader concept which can unite some faithful clusters, its content and a form acts as the cluster beginning. Thus the competences can be built in hierarchical relations, joined in ontological model [Kagakina, 2014].

Thus, some groups of competences can be highlighted by the experts during the discussion. Usually their number fluctuates from four to six. The examples of competence decomposition are given in the Table 2 and Table 3.

Table 2.
The example of competence decomposition
"High level of military and professional training, creative approach to the solution of combat readiness problems, strengthening of military discipline and troop service"

№	Behavioral markers *"High level of military and professional training, creative approach to the solution of combat readiness problems, strengthening of military discipline and troop service"*
1.	Assiduity
2.	Ability to plan the work
3.	Insistence to himself and to the others
4.	Ability to conduct conversation, to speak
5.	Ability to listen
6.	Aspiration to self-improvement

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Table 3.

The example of competence decomposition *"Ability to have the high level of military and professional training, creative approach to the solution of problems of division combat readiness"*

№	*Behavioral markers* *"Ability to have the high level of military and professional training, creative approach to the solution of problems of division combat readiness"*
1.	Improving professional development level
2.	Improving intelligent development level
3.	Improving moral and spiritual development level
4.	Improving physical development level
5.	Maintenance of a model appearance and front bearing
6.	Ability to be morally and psychologically steady in various conditions
7.	Ability to consider legal, social, economic, ecological and other consequences at decision-making

So we notice that in competence *"Ability to have the high level of military and professional training, creative approach to the solution of problems of division combat readiness"* (table 3.) such cluster as "Improving a professional, intellectual, moral and spiritual physical level of development" and even maintenance of model appearance and front bearing is enclosed. Besides, under a behavioral marker No. 7 "Ability to consider legal, social, economic, ecological and other consequences at decision-making" the sense of the relation to military service, internal troops and companions at the behavioral level is put.

No more than eight behavioral markers should be enclosed into each competence in order not to complicate the subsequent work with the model. Importance of describing cluster model of competences within behavioral markers is the behavior which we directly observe at the graduate (the student) during his study, without interpreting a working quality of the cadet. Advantage of evaluating working qualities of competence model is in an assessment of the cadet's direct educational activity. Thus, certification is an assessment of the person's theoretical knowledge in the field of the professional competences. Certainly, such approach isn't an ideal, excluding possibility of errors and some shortcomings. First of all, it is probability of biased assessment of the commander (the teacher) at estimating the cadet. But the advantage of this approach is also possibility for correcting working qualities, behavioral markers through cross supervision over the cadet on classes, daily activity by the several experts.

STAGE 4.
Making the table and inputting the parameters for evaluating achievement qualities (or not achievement) of the professional competences and defining professional training level.

At this stage it is necessary to define the content of various levels. On accruing, it can be the following evaluating indicators: "competence is reached partially", "competence is reached", and "competence is reached completely".

Evaluating indicator: "competence is reached partially". The cadet mainly shows the skills sufficient for performing office and fighting tasks, according to the Constitution of the Russian Federation, federal constitutional laws, federal laws, all-army regulations of Armed Forces of the Russian Federation and other standardly legal acts of the Russian Federation, the Ministry of Internal Affairs of the Russian Federation, the commander-in-chief of internal troops of the Ministry of Internal Affairs of the Russian Federation (further – normative legal

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acts). The cadet has knowledge only of the main material, but he doesn't know the details, he is demanded in some cases leading questions for making the decision, he allows separate inaccuracies. He needs additional training and control.

Evaluating indicator: "competence is reached". The cadet has necessary knowledge and skills. In most cases he can fulfill duties in compliance with requirements of normative legal acts and achieve results. He solves complex problems without assistance. The cadet correctly applies the gained knowledge at solving practical questions; he has correct knowledge on working methods with arms and equipment. Skill improvement is required.

Evaluating indicator "competence is reached completely". Perfect understanding and special talent to apply knowledge and skills; and also achieving good results. The cadet quickly makes the correct decisions, accurately gives commands; he has correct knowledge on working methods with arms and equipment. He is ready to manage division when performing office and fighting tasks.

Further, in according with evaluating indicators we make the table for evaluating concrete competence (Table 4).

Table 4.

Evaluating the graduate (the cadet) on competence "Ability to have the high level of military and professional training, creative approach to the solution of problems of division combat readiness"

№	Ability to have the high level of military and professional training, creative approach to the solution of problems of division combat readiness (*The competence "Ability to have the high level of military and professional training, creative approach to the solution of problems of division combat readiness"*)	Marks (0-1-2)	Evaluating indicators	The comments of the commander (the teacher)
1.	Improving professional development level		**The competence is reached completely** - 11-12 marks	
2.	Improving intelligent development level			
3.	Improving moral and spiritual development level		**The competence is reached –** 8-10 marks	
4.	Improving physical development level			
5.	Maintenance of a model appearance and front bearing		**The competence is reached partially** - to 8 marks	
6.	Ability to be morally and psychologically strong in various conditions			
	Total marks			

ASSIGNMENT of marks on each concrete behavioral marker proceeds from gradation of answers: 0 – this line of action isn't shown in general, 1 – somewhat is presented, 2 – the line of action is realized fully. All marks are summarized (a result – in the column "total marks"), we can get a complex assessment of the given competence at the graduate (the cadet) and evaluate the cadet's reached level of training. If it is required to note any features of this competence in relation to the specific graduate, the estimating commander (the teacher) can display them in the column "comments". After an assessment by the direct commander (the teacher) the model is analyzed by the employee of the personnel department who makes the recommendations about further development and career planning of the graduate (the cadet). Such procedure using this method can be conducted once a half-year, therefore, there is an opportunity to trace dynamics of professional growth of cadets of military institutes of internal troops of the Ministry of Internal Affairs of the Russian Federation.

Conclusion

IT should be noted that the offered cluster model allows making individual plans, planning individual work of the student with the teacher, consultations, additional classes, trainings, etc. It sets prospect for an individual professional growth of a future officer and can serve as a reference point for the subsequent distribution of the graduate to direct places of his service after graduating higher education institution.

References

1. ZIMNYA, I.A., 2006: Competence approach. What is its place in modern approaches to educational problems? (theoretical and methodological aspect) / Higher education today – 2006. – № 8. – P. 20–26. (in Russian)
2. SMIRNOV, A.V., 2010: Educational clusters and innovational education in higher institution: monograph. Kazan, 2010. (in Russian)
3. ARSHINOV, V.A.: Philosophy of education and synergetic: How can synergetic help to form a new model of education?: article. URL: http://spkurdyumov.narod.ru/Arsh.htm (in Russian)
4. KORETSKI G.A., LAPYGIN D.YU.: Prerequisites for integration into educational cluster. URL: http://journal.vlsu.ru/index.php?id=58 (in Russian)
5. KAGAKINA E.A., 2014: Projecting competence and oriented education in higher institution based on ontological model // Professional education in Russia and abroad, 2014. - № 3 (15). – P. 31-36. (in Russian)