RESEARCH THE DYNAMICS OF CADETS' COGNITIVE ACTIVITY IN THE MILITARY EDUCATIONAL PROCESS

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Abstract. *The article dedicated for a measure of the cadets' cognitive activity level within the educational process there were developed the cadets' cognitive activity measurement criteria.*

Keywords: *criteria, professional competence, research methods, cognitive activity, dynamics, cognitive science techniques, behaviours, strategies, pedagogical creativity.*

Introduction

Just as cadets never stop learning, neither do librarians and teachers. Learning is a process that is facilitated by interest and applicability [1]. Therefore, it is imperative to develop instructional activities that cadets deem important and relevant. Analysis of the scientific literature has made it possible to determine three levels of cognitive activity: reproductive, partially exploratory and research [2].

Materials

To research the dynamics of university cadets' cognitive activity in the military educational process there were developed criteria to measure the cadets' cognitive activity. To measure the cadets' cognitive activity level within the educational process there were developed the cadets' cognitive activity measurement criteria. The criteria are as follows: attitude to the object of cognition, focus of learning and question formulation mindset and search of the modes of action [3]. Cognitive activity development levels are the following: reproductive, partially exploratory and research (Bakhaeva, 2010).

To study self-assessment of professional competence by a cadet seeking a bachelor's degree we used a questionnaire that enables to determine the following indicators:

– knowledge of the object of professional activity;

– knowledge of the operating procedures applicable in the field of the future profession;

– knowledge of special features of work in their future professional activity, knowledge of the theoretical bases for their professional activity;

– diagnosing the level of professional competence development;

– knowledge of technology for their professional activity;

– ability to use research methods, knowledge of scientific achievements in the field of professional activity, of the legal framework and documentation;

– ability to generalize one's own experience;

– knowledge of methods and ways of self-education [4].

Methods

Theories from basic cognitive science imply principles for effective teaching and learning. Principles include 'spacing' learning out over time, providing worked examples to support problem-solving, and presenting information both verbally and visually [5]. The applied evidence summarized does provide support for many of the principles of learning implied by basic cognitive science, albeit in specific contexts.

For most of the strategies included in this review, cognitive science principles were significant factors aspecting rates of learning and retention of information in the auditory. Most of the results could be explained using theories from basic cognitive science and practice-facing versions of these.

Results

Possible factors affecting the impact of cognitive science techniques

Teaching:

- extent of teacher professional development and learning for the cognitive science technique
- teacher general pedagogical and subject-specific knowledge and skills
- level of teacher experience
- teacher motivation and enthusiasm for the cognitive science technique
- extent to which technique replaces or improves teacher's existing practice.

Cadet individual factors (potentially different for each cadet):

- prior level of knowledge, in general and for the topic being learnt (and extent to which the teacher takes this into account)
- working memory capacity [6]
- nutrition and hydration
- alertness/activity level
- mood and emotional state
- general and learning – specific motivation
- personality and temperament
- special educational needs
- learning behaviours and strategies
- age and maturity.

Social environment:

- relations in the class (teacher-cadet, cadet-cadet, cadet-teacher)
- culture of participation
- emotional environment
- disruption, noise, or distraction
- decoration and information
- access to learning resources.

Activity, topic, and subject:

- subject or curriculum area (e.g., general differences in the nature of subject content and pedagogy)
- nature of specific learning content (e.g., complexity/element interactivity, novelty, connection with other learning)
- nature of specific learning activity (e.g., cadet-led, length, structure, resources) [4].

Discussion

Pedagogical research illustrates that cognitive activity enables cadets to form professional and specialized knowledge effectively . This means that the development of knowledge of the requirements by information and communication technologies is one of the important issues of modern education.

A. V. Khutorsky cites cognitive activity as the main competence directed at acquiring knowledge, mastering methods of cognitive activity, developing certain skills, creative thinking and independence in the learning process. In our opinion, competence is not only the skills or ability to perform certain technological activities in the educational process, but also a combination of professional knowledge and skills, social ethics, teamwork, initiative [7].

Presently, there is a need to develop new forms and methods of activating cadets' cognitive activity when studying the subject "Informatics and Information Technology" [8]. There are three ways to introduce pedagogical creativity in pedagogical practice: discovery, invention, improvement. At this stage, we are choosing the third path, that is, we will select the most familiar forms, methods and means of teaching and training, to choose the specific subject, teaching material, audience and conditions, its contents are enriched by creating non-standard and training activities for cadets' cognitive development its contents are enriched. When organizing and conducting such training, it is advisable to rely on the following approaches [9]:

- creating conditions for full development of cadets' personal functions;
- incorporating important tasks for cadets into the learning process;
- selecting assignments (including selection of creative tasks) based on the ability of cadets to know;
- reduce requirements to different social and professional situations (role-playing activities - debating press conferences, gaming technologies such as Viruses);
- creating conditions for cadets to self-identify, activate, and develop [6].

Conclusion

Based on the results of pedagogical research, problem-solving and conclusions, the following recommendations can be made [10]:

- organizational components of the development of cognitive activity of future professionals (motivational, cognitive, using the methods of explanatory-demonstration (information-receptive), module-rating, problem-solving, heuristic, aimed at activation of cadets' cognitive activity in the educational process; improvement of active, reflexive, creative) content;

- organizational-pedagogical structure of development of cadets' cognitive activity based on technologies «Case-Problem-Method», «Case-Incident-Method»;

- implementation of criteria (cognitive, functional, motivational, trajectory) and methods (theoretical, technical, creative, module-rating system, assimilation, quantitative) based on the principles of regularity, consistency, and gradual development of cognitive activity in cadets [3].

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