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Development of Creative Cognitive Activity of University Students by Means of Interdisciplinary Connections

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Abstract: In the solution of problems of development of creative cognitive activity of university students by means of interdisciplinary connections, we believe that interdisciplinary connections have direct impact not only on development of creative cognitive activity of students but also on their outlook formation, promoting realization world's material unity. Our research revealed that implementation of interdisciplinary connections involves the best sequence of learning topics regarding general matters in various objects and sections of this subject. Interdisciplinary connections also allow to use one subject as the tool for the solution of questions and tasks in the other subject, to embrace interrelations in modern subject structure, to disclose separate links deeper and more versatile. They cause an increase in cognitive interest of students in training can develop creativity in studying when familiarizing with scientific concepts. Specification and generalization of knowledge gained in using interdisciplinary connections givestudents the opportunity of transferring this knowledge to new applied situations and creatively apply them in practice. The study reveals the essence and the main components of creative cognitive activity of personality of university students. Person-oriented approach as a methodological basis of development of creative cognitive activity of student's youth is scientifically grounded in our research as well as possibilities of interdisciplinary connections as the determining factor of development of creative cognitive activity of students of university in the learning process are investigated.

Key words: Educational process, interdisciplinary connections, person-oriented approach, cognitive activity, creative cognitive activity, pedagogical conditions, integration of knowledge, personal self-realization, motives of learning, university students

INTRODUCTION

The transformations occurring in political, social, economic and other spheres in our country in recent years constantly set up new claims to professional training of experts. At present, the main objective of the higher education is formation of such experts who would be capable to solve creatively constantly increasing problems in the development of industry, science and culture (Andreev, 2006) That is why, the scientific organization of a professional education involves its continuous improvement according to the leading trends of education development from the aspect of its modernization, and therefore, development of creative cognitive activity of student's youth for increasing their competitiveness and professional mobility is reasonably supposed.

MATERIALS AND METHODS

Analysis of psychological and pedagogical researches revealed that creative cognitive activity represents difficult concept, which content needs to be connected not only with individual's ability to master and deeply comprehend knowledge but also with formation of personality's social position (Zhelezovskaya, 1997). So, creative cognitive activity is characterized by such manifestations as self-control of cognitive activity, synthesis of cognitive motive and the stable positive attitude of a youth to knowledge. Hence, components of the concept "creative cognitive activity of students" are the creative beginning of cognition (source and means of obtaining new knowledge), cognitive efforts (mental condition of a subject learner, his personal education expressing his attitude to the process of cognition) and cognitive activity (process of mastering professional abilities by a student and the result of his educational activity). This analysis led us to a conclusion that creative cognitive activity of future specialist is the following: personal target setting for implementation of future professional activity with new for themselves results, interest and responsibility in implementation of innovative ideas, search for optimal forms, methods and ways of obtaining final result on the basis of creative approach to a selection of options, ability to feel moral and aesthetic

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satisfaction from educational and professional activity in the context of the creativity during practice, internal setting for a continuity of familiarizing to the results of creative activity and skills of its stage-by-stage realization (Verbitsky, 1991). In this connection, The research defined the understanding of phenomenology of the concept "creative cognitive activity of students" which is a characteristic of student's educational activity at the level of his setting for creative development of the world, cognitive motive and stable positive attitude to the actualization of earlier mastered knowledge or ways of activity to develop personal relation to future professional activity with new for themselves results.

In this context, the structure of creative cognitive activity of university students includes four interrelated components: motivational and valuable (expresses conscious and positive attitude of students to obtaining knowledge as to creative process), cognitive (unites set of students' knowledge in management and computer science and creative work organization), activity (based on a complex of economic skills, initiative application of modern information technologies by students in the course of active studying economic disciplines) and reflective-evaluative (characterizes the evaluated students' attitude to the process of obtaining knowledge). In the development of creative cognitive activity of students we distinguish the following levels: low (characterized by a passive position in the process of creative development of sciences), situational-active (the beginning of formation of cognitive interest in technical subjects on the basis of professional knowledge formation), executive (defined by active position in the learning process) and creative (apparition of ability for creative and active position in the learning process).

RESULTS AND DISCUSSION

Analysis of theoretical studies and practical activities in the aspect of the developed problem showed that the efficiency of creative cognitive activity development of university students will increase if:

- To consider creative cognitive activity as a characteristic of cognitive activity of students in the aggregate of motivational and valuable, cognitive, activity reflective-evaluative components determining levels of its formation (Davydov, 1995)
- Development of creative cognitive activity of students is based on the choice of educational strategy caused by personal orientation of educational process and strengthening of the subject position of students (Khutorskoi, 2005)
- Realization of interdisciplinary connections in educational process is on the basis of coordinated, concerted and interconnected activity of individuals of training management of development has systematic character (Fedorets, 1983; Maximova, 1988)

The research showed that the use of interdisciplinary connections can efficiently be carried out during interdisciplinary tasks solving and this process can happen at various levels, at conceptual and factual, conceptual and theoretical, conceptual and practical as well as at philosophical and world outlook. For this reason, this made it possible to carry out interdisciplinary connections at such levels as:

- Intersubjective (between subjects of a particular subject, for example, management of organization, theory of organization, organizational behavior, etc.)
- Level of one cycle subjects belonging to one group or different groups of subjects
- Level of subjects belonging to different cycles (all-subject connections for example, between economic theory and philosophy, mathematics and psychology and others)

During this research certain didactic aspects of a person-oriented approach realization to students' creative cognitive activity development were determined. This process can include the following stages: a stage of a joint goal-setting and statement their own purposes of cognitive activity (provides identification of students' interests, excitement of initial motivation, drawing attention to a learning subject); a stage of updating and enrichment subjective experience (reliance on the stock of knowledge which was learned earlier, in order to give special educational value to personal experience); a stage of presentation new knowledge (using heuristic methods of introducing training material); a stage of primary fixing and application of knowledge in practice (summation and systematization of new information, its interpretation and also correction of erroneous knowledge); a stage of reflection and feedback (provides students' self-examination their cognitive activity and its results and also self-correction of their work); a stage of final control (providing students' choice of the most creative and appropriate for themselves forms of control tasks) (Pligin, 2003).

According to the results of the study, interdisciplinary connections in educational process of higher education institution are able to influence on changing the level of students' creative cognitive activity. So, during the research it was revealed that application of interdisciplinary connections in educational process

allows to solve purposefully the following issues: to set purposes and tasks of lessons in a complex; to develop the content of lessons in a complex including studies of generalized, related concepts, leading ideas of related items, world outlook problems; to organize qualitatively cognitive activity of students, providing training difficult generalized skills and methods of study, general for a number of subjects; to use in a complex means of activization of students' cognitive activity, methods and forms of educational work, visual aids typical for subjects that are related; to develop working programs and lessons in a complex, including all aspects of training organization mentioned earlier; to carry out qualitative analysis of effectiveness of educational process according to objectives common for a number of subjects; to influence essentially on creative cognitive activity of students (Usov, 1973).

However, the most successfully organization of cognitive activity in the conditions of interdisciplinary connections is carried out at observance of the following conditions:

- Planning system work to determine the content, methods and forms of organization of cognitive activity at lessons on related subjects
- Specification of methodological approaches on separate lessons of a course, related courses or in the whole educational topics of different subjects with definition of interdisciplinaryinformative tasks of solving problem stage-by-stage
- Implementation of corrections at realization of the developed methods on the basis of feedback by mutual control of teachers of different courses (Fedorova, 1980)

All this conducts as the research showed, to productive implementation of major functions of the person-oriented approach, such as: function of personal self-realization (based on formation and implementation of students' reflexive abilities in educational process); function of humanitarian and humanistic orientation (preservation and restoration of individual's physical and spiritual health and morality); culturological function (provides preservation, transfer, reproduction and cultural development with through education); selectivity function (provides person's ability to make a choice); function of reflection (forms individual's ability to assess his life); function of existence (consists in search the meaning of life and creativity); forming function (directed on formation at the individual's own self and in general "I" concept); function of personal autonomy (promotes personality as it develops more and more exempt from other factors, etc.) (Yakimanskaya, 2000).

Thus, we determined methodological basis of creative cognitive activity of students' development as a person-oriented approach which involves in educational process transition from the subject-object to the subject-subject relations in the teacher-student system. The research showed that in its essence a person-oriented approach in the context of creative cognitive activity of students' development is shown in the following key parameters: in training orientation; in didactic purposes of educational process; in leading activity; in the role of a teacher; in the activity of a student; in specifics of a teaching process construction; in pedagogical methods, means and forms; in teaching; in training methods; in performance of independent work; in evaluation; in dominating form of educational process; in feedback; in tactics of a teacher; in the "teacher student" relation (Afanasyeva, 2001).

Hence, theoretical readiness of content and ways of realization of a person-oriented approach gives us a reliable idea of deep reserves of points and ideas of the person-oriented training. It was revealed that it is possible in modelling such educational process which would possess a certain system: means for developing students' cognitive sphere, providing efficiency of knowledge and transformation of the world and himself; means for forming stable internal motivation to cognitive activity; means aimed at forming student's position as the subject of cognitive activity; means for managing the process of development of creative cognitive activity of students by the teacher; means for updating and making compensatory changes into the generated style of activity.

In examining the prospect of a person-oriented approach in modern university, it was revealed that it is one of the most important sources of enrichment of the pedagogical theory and improvement of educational process. According to this conclusion in the content of a person-oriented approach the following components were identified: axiological (to assist students in selecting personally significant system of valuable orientations), cognitive (strategy of cognitive activity for the purpose of self-determination of life aspirations and students' aims), activity-creative (formation and development of students' various ways of activity, creative abilities, skills and abilities necessary for self-realization) and personal (development of ability for reflection, mastering methods and ways of self-regulation).

The research proved that for modern educational practice some didactic conditions of students' creative cognitive activity development of technical college can have undoubted value. They are the following: recognition of a student as a subject of educational

activity and organization of training process with his maximum motivation, subject experience, reflection; pedagogical stimulation of differentiated independent cognitive activity of students providing realization of all training components: motivational, orientation, substantial, volitional, estimated; ensuring domination of interactive methods of training process promoting updating of students' personal experience and activization of creative cogitative and practical activities in the process of mastering training material on the basis of realization of interdisciplinary connections; optimum combination of group forms of students' cognitive activity with individualization of this process through the organization of differentiated pedagogical support of students with different levels of cognitive activity.

CONCLUSION

Thus, possibility of using interdisciplinary connections of in the process of creative cognitive activity promotes the following:

- Deeper understanding by students (in the context of their future professional activity) common processes of phenomena, ideas, theories, laws, concepts, facts and connections between them (Guriev, 1999)
- Considerable expansion of the content of theoretical and methodological training of students
- Activization of formation processes of all components of professionally oriented person of future expert (Salyakhova and Valeeva, 2015)
- Clear understanding the unity of vocational and specialized-scientific training purposes by students
- Essential strengthening of motivation to cognitive and professional activity of future experts through interest and creative approach to related subjects (Yelagina, 2000)

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REFERENCES

Andreev, V.I., 2006. Pedagogy of creative self-development. Innovative course Book 2nd Edn. Kazan: "KGU", pp: 320.

Afanasyeva, N.A., 2001. Personal approach in training. School Psychol., 32: 24-30.

Davydov, V.V., 1995. About developing training concept. "Prosveshenie", Moscow, pp: 144.

Fedorets, G.F., 1983. Interdisciplinary connections in the training process. Leningrad: "LGPI", pp: 88.

Fedorova, N.P., 1980. Interdisciplinary connections of natural and mathematical disciplines. "Prosveshenie", Moscow, pp: 238.

Guriev, A.I., 1999. Interdisciplinary connections in the theory and practice of modern education. Innovative processes in the system of modern education. Materials of all-Russian Scientific-practical conference. Gorno-Altaysk, pp: 160.

Khutorskoi, A.V., 2005. A technique of a person-oriented education. Moscow: "Vlados-press", pp: 383.

Maximova, V.N., 1988. Interdisciplinary connections and improvement of training process. "Prosveshenie", Moscow, pp: 192.

Pligin, A.A., 2003. Person-oriented education: history and practice, Moscow, pp: 432.

Salyakhova, G.I. and R.A. Valeeva, 2015. Pedagogical stimulation of university students' social competence development by means of interdisciplinary integration. Rev. Eur. Stud., 7 (5): 186-192.

Usov, A.V., 1973. Interdisciplinary connections in teaching fundamentals of sciences at school. "Pedagogika", Moscow, pp: 168.

Verbitsky, A.A., 1991. Active training in Higher Education: contextual approach. Moscow: "Vysshayashkola", pp: 207.

Yakimanskaya, I.S., 2000. Technology of a person-oriented training at modern school. "Sentyabr", Moscow, pp: 110.

Yelagina, V.C., 2000. Didactic bases of teachers training to realization of interdisciplinary connections at school. "ChGPU", Chelyabinsk, pp: 154.

Zhelezovskaya, G.I., 1997. Pedagogics of creative person development. Saratov "Nauchnayakniga", pp: 140.