Abstract. **Purpose:** to determine characteristics of acme-qualities’ formation in physical education specialists and determine correlations between components. **Material:** in the research students of “Physical education” specialty (n=194) participated. For assessment personality’s qualities special tests were used. Organization abilities, communicative abilities, creative potential, demand in achievement, emotional information level, control of emotions and etc. were assessed. **Results:** we determined components of personality’s acme-competence component in physical education specialists. We found density and orientation of correlation and influence of acme-qualities on personality’s component. By the results of factorial analysis we grouped, classified components by four factors and created their visual picture. The accumulated percentage of the studied factors’ dispersion was determined. **Conclusions:** continuous professional training of physical education specialists on acme-principles resulted in formation of personality’s acme-qualities. They facilitate manifestation of personality’s activity in the process of professional formation and constant self-perfection.

**Key words:** acmeology, competence, personality’s, professional training, physical education.

**Introduction**

In 2003 Ukraine joint Bologna process. By this, Ukraine officially declared intentions to reform higher education in compliance with standards and recommendations of European space of higher education (ESHE). It was reflected in new Law of Ukraine “On higher education” http://zakon4.rada.gov.ua/laws/show/1556-18), which completely corresponds to modern European and world specimens and provokes implementation of educational innovations. One of such innovations was implementation of new teaching paradigm of European space of higher education – student-centered teaching. In the basis of such student-centered teaching was competence approach to construction and realization of educational programs. European scientists think that acquiring knowledge and skills by youth shall be oriented on perfection of their competence. It would facilitate intellectual and cultural progress of a personality; formation his (her) ability to quickly respond to requirements of time [14, 18]. Just because of it is important to understand conception of competence itself. It is important to understand, what competences shall be formed. Specialist’s prediction of education results is an important stage of realization of educational programs.

As European authors note as on the present time education programs have been revised and changes to them have been introduced. The mentioned changes are oriented on creation of foundation for studying. Result of such changes is formation of required competences [15, 16].

The task of professional training is formation of competent specialist, able to constantly systemically generalize world and domestic experience as well as formation of specialist, able for innovative search of self-realization methods in conditions of continuous changes in modern society [13].

Adult person as individual, personality and subject of activity are in the center of acmeology attention [12]. Acmeology is a science, which appeared on the cross of sciences about man: philosophy, psychology, pedagogic and sociology. Within professional acmeology researches marked out the following directions [1, 9]: pedagogic acmeology, school, social, military, creative, medical, synergetic, correcting, characteristic and ethnologic. To the mentioned acmeology of administrating and acmeology of higher education should be added. It is worth to mark out within professional acmeology such directions as sport and physical culture acmeology. In the center of physical culture acmeology there will be adult and mature person as well as dynamic of his (her) personality’s progress and growth as subject of professional activity.

Scientists interested in different aspects of human life. On acme-principles of holistic approach to study of personality they researched acme-targeted programs of creative potentials self-realization in outstanding scientists in their whole lives (M.I. Pirogov, P.F. Lesgaft, V.M. Bekhterev, B.G. Ananyev, K.S. Kuzmin). The results of these researches showed the following regularities:
Early professional self-determination in family and family’s support;
Meeting with teacher, who recognized creative potential of future scientist and gave him confidence;
Own creative activity at stage of students’ years and in post graduate courses;
Early interest in methodology and methods of research; inventiveness and creativity in them;
Sufficient mastering of conceptual scientific apparatus and written language;
At mature stage – ability to involve students and post graduates in creative research work [2].

In studying of adult person and specificities of his (her) progress, scientists determined subjective and objective factors, which conditions personality’s acme-achievement. Correlation and inter-influence of acme and popularity were also studied [1]. Acme-professionalism of a pedagogue is efficient usage of “all internal resources for progress of pupils/students, for preparation to successful entering other pedagogic systems” [8].

Scientists noted that it is important to pay attention to acmeological invariants of professionalism. Professionalism’s invariants are main characteristics, skills and abilities of professional, which ensure high effectiveness and stability of functioning, independent on its content and specificity [3].

In our researches we studied foreign physical education specialists’ professional training. Besides, we analyzed modern tendencies of physical education specialists’ training in countries of European Union and studied the same in the USA. We also analyzed normative and methodic provisioning of specialists’ professional training in CIS. As a result we determined modern status of continuous physical education specialists’ training in Ukraine [4]. In the researches of acme-principles of physical education specialists’ continuous training we substantiated the structure of their acme-competence. Acme-competence consists of the following components: acme-motivation, cognitive, activities’, personality’s acme-qualities [6, 7].

The main conceptual idea of the present research is principle that continuous professional and personal progress of physical education specialist can manifest during all life and professional functioning. The main condition: professional training shall envisage formation of specialist’s motivation to achievement of own “acme”. Such training can be realized at the account of realization of specialist’s professional and personal qualities [4, 5].

The purpose of the research is to study formation of acme-qualities in physical education specialists’ personalities in the process of their professional training based on acmeology.

Material and methods

Participants: in the research students of “Physical education” specialty (n=194) participated. For pedagogic experiment we formed control (n=98) and experimental (n=96) groups of students.

Procedure: the researches were conducted on the base of Kyiv University, named after Borys Grinchenko. During 2010-2015 we used acme-oriented active teaching methods in process of physical education specialists’ training. They are lectures (information lectures, problem lectures, binary lectures, topical lectures, reviews, conferences, lecture-visualization and consultations) and seminars (inter-disciplinary seminars, seminars-conferences, discussions, seminar research, role game, “brain storm”, and analytical seminar). For assessment of personality’s qualities we used special tests [4, pg. 423]. Organization abilities, communicative abilities, creative potential, demand in achievement, emotional information level, control of emotions and etc. were assessed in the process of the researches. The mentioned acme-qualities were determined twice a year (January and May).

Statistical analysis: we used standard methods of statistical data processing (method of mean values, calculation of Student’s t-criterion, correlation and factorial analysis) with the help of «Statistica» programs. [4].

Results of the research

Personality’s component of acme-competence we determined by level of the following acme-qualities formation in “Physical education” students. Formation of personality component’s parts if shown in fig. 1.
Fig. 1. Formation model of acme-competence personality’s component in physical education specialists: 1 – attitude to own “Self” (“Self”-conception); 2 – sense of civil duty; 3 – ability to be psychologically close to other persons; 4 – organization abilities; 5 – communicative abilities; 6 – creative potential (creativity); 7 – demand in achievement; 8 – emotional information level; 9 – control of emotions; 10 – empathy; 11 – recognition of other people emotions; A – control group; B – experimental group.

Formation of personality’s component takes place during all period of study in higher educational establishment not evenly. Acme-competence components influence differently on final formation level of personality’s component.

Correlation analysis permitted to determine density and orientation of acme-qualities’correlations and influence on personality’s component. We grouped acme-qualities by the strength of their correlations.

Thus, high correlation by level of personality component’s formation have: creative potential (creativity) ($r = 0.91$) and communicative abilities ($r = 0.91$); organization abilities ($r = 0.89$).

Creativity implies systemic quality of mind and combination of human psyche characteristics, ensuring realization of person’s individuality. In experimental group creativity was 57.8% by the end of master’s course. In control group this indicator was 35.86% that was by 21.9% less than in experimental group.

We determined important for professional functioning communicative abilities: ability to communicate with colleagues (parents, pupils), ability to find correct approach to them; ability to predict the result of pedagogic action. In experimental group such qualities were formed by 59.6%, while in control group this indicator was by 22.8% less and equaled to 36.76%.

Organization abilities, ability to arrange activity of collective, optimize own functioning (to plan, to control) was formed in experimental group by 66.3%, while in control group this indicator was by 15.5% less and equaled to 50.79%.

Next group of acme-qualities with high correlation with personality component’s formation included: demand in achievement ($r = 0.76$), attitude to own “Self” (“Self”-conception) ($r = 0.74$) and ability to be psychologically close to other person ($r = 0.74$).

Demand in achievement is one of main personality’s qualities. It is especially important for “Physical education” students. In the base of insistence in overcoming obstacles there is strive to exceed already achieved level in fulfillment of certain action; competition with oneself or with other person. In process of continuous professional
training demand in achievement was formed in experimental group students by 65.3%, while in control group this indicator was by 26.25% less and equaled to 39.1%. Y

“Self”-conception includes understanding of own physical and intellectual in-born abilities, self-assessment, subjective self-perception. All these characterize influence of environmental factors on personality. In experimental group students by 84.5%, while in control group this indicator was by 22.04% less and equaled to 62.46%.

For profession of “person-to-person” type it is important the following: ability for psychological closeness with other person; ability to listen; demand in spiritual closeness; level of formation. The level of this component’s formation in experimental group students increased up to 82.4%, while in control group this indicator was by 18% less and equaled to 64.36%.

Correlation analysis permitted to determine acme-qualities, which have significant correlation and influence of personality component’s formation. They are: civil duty \( r = 0.65 \), empathy \( r = 0.64 \), ability to recognize emotions of other people \( r = 0.6 \) and emotional information level \( r = 0.53 \).

Civil duty sense is connected with such personality’s qualities as: patriotism, interest to social-political phenomena, professional responsibility; demand in communication and collectivism. At modern stage of Ukrainian society’s development the sense of civil duty is a necessary condition of formation of competent compatible, modern pedagogue. Such pedagogue will be able to educate young generation of Ukrainians at proper level. The level of civil duty formation in experimental group students increased up to 67.3%, while in control group this indicator was 60.9%.

At present time there are contradictions in social-political life of Ukraine. It negatively influences on formation of this quality in students.

Empathy is also important acme-quality: it is ability to co-feel, to perceive feelings of other person; it is a demand in altruistic creation of favorable conditions for positive emotions and life activity of person, who requires support. Empathy is one of indicators of humanistic, spiritual component of society in the whole. In experimental group students it is 74.8%, while in control group this indicator was 65.21%. It was by 9.59% less than indicator of experimental group.

Recognition of other people’s emotions is an indicator of personality’s “emotional intellect”. This fact says that the person can control emotions and feelings of vis-à-vis; recognize and feel emotional component of intra-personal relations. In profession of “person-to-person” type, profession of pedagogue formation of this personality component’s quality is very important. In experimental group students it is 81.65%, while in control group this indicator was 79.8% that is by 17.6% less than indicator of experimental group.

Emotional information level reflects person’s knowledge about laws and phenomena of affective life as well as understanding of what emotional reaction can be caused by any event, word or action. In experimental group students it is 79.8% that is by 15.77% than higher indicator of control group (64%).

Correlation analysis showed that personality’s acme-quality of emotional control has moderate correlation with formation level of acme-competence- personality’s component \( r = 0.44 \).

Emotional control reflects person’s ability to control influence of external psycho-traumatizing factors on own emotional state (ability to defend against negative influences). The level of this ability’s formation in experimental group was 69%. This indicator was only by 7.45% higher than in control group (61.55% accordingly).

Thus, the level of personality component’s formation on all educational levels was 73.9%. In control group it was 54.68%. It was by 19.22% less than indicator of experimental group.

By results of factorial analysis we grouped components by four factors: motivation-personality’s factor, personality’s, emotional-psychological, studying and studying on research base.

All marked out factors combine 79.8% of all indicators, all components. The most significant was the first factor (motivation-personality’s), which has the highest percentage of general dispersion – 43.53%. The biggest factor scores have motivation of achievement (0.83), abilities for psychological closeness with other person (0.8), attitude towards own “Self” (“Self”-conception) (0.79), empathy (0.77), learning-cognition motives (0.74), prestige motives (0.71), professional motives (0.70).

Personality’s (second) factor has 17.6% of general dispersion that points at sufficient significance of this factor. The highest factor scores have social motives (0.68), demand in achievement (0.57), communicative abilities (0.56), organization abilities (0.55), creative potential (0.48).
Analysis of after-experiment results shows that in experimental group there are statistically significant distinctions. It related to acme-competence in general and the level of its components’ formation (p<0.05). In control group we observed certain dynamic. But we did not register any statistically significant distinctions in acme-competence and its components (p>0.05).

**Discussion**

Systemizing of scientific literature data permitted to conclude: application of specialists’ acme-oriented professional training facilitates formation of their acme-competence. Acme-qualities of physical education specialist were determined. The conducted research proved results of other authors’ works on professionally important qualities of physical education specialists [2, 3, and 8]. These authors noted that teacher shall have such professional qualities: integral psychic features of personality (attention, memory, and thinking); psychic characteristics (emotional warmthness, tolerance); personality’s professional qualities (organization, communicability, responsibility, discipline, initiative), will qualities [10, 17].

Researchers determined main qualities, skills and internal forcing reasons, which ensure high efficiency and stability of functioning; active self-development and realization of specialist’s creative potential [9]. The offered conception of professionalism acmeological invariants permits to accelerate specialist’s individual-professional progress [8]. Our research has supplemented information about modern approaches to physical education specialists’ training on acme-principles.

The author’s conception of physical education specialists’ continuous training on the base of acme-principles is realized in educational process of higher educational establishment. Professional training is oriented on formation of acme-competence of physical education specialists. For the first time we used factorial analysis for grouping and classification of physical education specialists’ acme-competence components.

Such approaches are especially important at initial levels of higher education and in first year of bachelor’s period. Educational process of physical education specialists’ training, based on acme-principles shall be oriented on prevailing formation of acme-motivational component of acme-competence as far as acme-motivational component (as combination of strives and conditions) determines, directs and regulates specialist’s acme-oriented development. With it, personality’s acme-qualities are the foundation of professional formation in higher educational establishment. Such qualities facilitate self-perfection and self-development during all life.

Further working out of teaching-methodic provisioning for acme-oriented training of physical education specialists seems to be a promising direction of researches.

**Conclusions**

1. The results of the research witnessed effectiveness of application of acme-oriented methods and forms of physical education specialists’ training; relevance of acme-enrichment of academic disciplines of professional and practical cycle.
2. Correlation analysis permitted to determine group of personality’s acme-qualities, which have significant correlation and render influence on formation of personality’s component of physical education specialists’ acme-competence.
3. By results of factorial analysis we grouped acme-competence components of physical education specialists by four factors.

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**Conflict of interests**

The author declares that there is no conflict of interests.

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