

RESULTS AND ANALYSIS OF THE FORMATIVE STAGE OF THE EXPERIMENT ON FORMING FUTURE TELECOMMUNICATIONS ENGINEERS' ACMEOLOGICAL CULTURE IN THE COURSE OF TRAINING

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Abstract. *The paper is focused on consideration and analysis of the results of the formative stage of the experiment on forming future telecommunications engineers' acmeological culture in the course of training. Also, the changes and new standards of the educational programmes in high technical schools and the actuality of this problem are discussed.*

Keywords: *acmeological culture, acmeological literacy, acmeological competence, telecommunications engineers.*

Introduction. Under conditions of drastic changes taking place in the Ukrainian society and in the system of higher education, a competent specialist should master new information technologies, have communicative abilities, be able to transform the attained knowledge into information technologies and work in a team, have skills of independent knowledge acquisition and professional development. For this reason, mere acquisition of knowledge and professional skills by students is insufficient; there appears the need for the education in which individually psychological capabilities of every student are taken into account. Thus, the formation of future telecommunications engineers' acmeological culture in the course of their training is of great importance. Acmeological culture of future telecommunications engineers is considered as a formation that provides acceleration of the process of students' self-development, consolidation of their new achievements in this process and preparation for new formations. It makes it possible to comprehend the process of acme-oriented self-development as a life value, create conditions for self-fulfillment in the course of their living.[1]

Brief review of publications on the subject. Within the recent decades, the issue of forming students' acmeological culture has drawn focused attention of pedagogues, psychologists and training specialists. General didactic aspects of this issue were considered by A. Derkach, N. Kuzmina, S. Arkhanhelskyi, Yu. Babanskyi, B. Korotiaiev. Also, the issue of forming acmeological culture, search for forms and methods of their activation in the course of training was studied by O. Dzene, O. Dolzhenko, L. Zharovyi, M. Zaikin, Yu. Zotov, I. Kobyliatskyi, V. Krupych, N. Nikandrov, K. Osovskyi, H. Sarantsev, N.

Tereshyn, A. Usova, T. Shamova and others. The works by Ye. Bortkevych, M. Harunov, V. Hraf, O. Dolzhenko, I. Iliasov and V. Kazakov were devoted to the issue of forming acmeological culture in students. The role and place of acmeological culture in the educational process of higher educational institutions for technology were investigated by V. Buriak, Ya. Hendler, T. Nechaieva, O. Nilson, A. Petrivskiy and others. [3]

The aim of the paper is to analyze the results of the formative stage of the experiment on forming future telecommunications engineers' acmeological culture in the course of training.

Data and methods. Based on the review of psycho-pedagogical literature and practice of technical institutions' work, it has been found out that the following pedagogical conditions are required for the formation of acmeological culture of future telecommunications engineers in the course of training:

- 1) actualization of motivation for achieving better results in the profession;
- 2) providing professional reflection aimed at the formation of acmeological culture;
- 3) future telecommunications engineers' engagement in individual creative work in the course of training.

Based on the results of theoretical study of the issue and ascertaining stage of the experiment, the model of implementation of pedagogical conditions for forming future telecommunications engineers' acmeological culture has been developed and its effectiveness has been experimentally tested. The model consists of such structural elements as aim, forms, methods of training activity, components of culture, pedagogical conditions and stages of their implementation, diagnostic means, in particular, assessment criteria, indicators of the formation of future telecommunications engineer's acmeological culture, and the result. Students' correspondence to a certain level of the formation of acmeological culture is the result of the above mentioned model implementation.[2]

Actualization of motivation for achieving better results in the profession was facilitated by extra-curricular activities on the English language in a club. The classes were calculated for one academic year; a foreign teacher – volunteer from the international organization «PEACECORPS» (USA) – was engaged in teaching. All the classes included active methods of forming acmeological culture and involved team work. They were developed as a series of classes that included various exercises and games designed to develop acmeological culture. In order to implement the tasks of the programme, the following methods were applied: group discussion, mini-lecture, educational gaming (situation and role-playing games, etc.), watching thematic films, creating and presentation of students' projects, holding motivating contests and grant projects, participation in international conferences.

Professional reflection was provided in the course of classes developed by the author, each of them including corresponding exercises and methods: game exercises called “Aquarium”, “Two-three-altogether”, “Press”, “Learn when teaching”, “Talk show”. The aim of the method called “Spectrum of ideas” was to get everybody involved into discussion of a problem.

When doing these exercises, the students could obtain new information, acquire it in the process of revision and transfer their knowledge to other students acting as tutors, which certainly contributed to their professional reflection.

Future telecommunications engineers were engaged in individual creative work in the course of applying some methods of interactive teaching, which are the most appropriate for individual creative work at English lessons; in the author’s opinion, they contributed to the formation of future telecommunications engineers’ acmeological culture. One of them called “Jigsaw” helped students get each other interested in studies, made it possible to acquire significant amount of information in a limited time-frame. In addition, the following methods were used: storyline, simulations, turnaround, training on stations, group puzzles, role-playing game, case-study (work on problem-based situations, where students consider a problem, analyze it in the course of discussion); role-playing games and quests were also held.

After that, based on the results of diagnosing the level of manifestation of the indicators according to the criteria, the level of future telecommunications engineers’ acmeological culture has been determined (Table 1.1).

Table 1.1

Arithmetic mean of the indicators demonstrating the level of acmeological culture development in future telecommunications engineers at the final stage of research and experimental work

Level Group	High		Sufficient		Low	
	abs.	%	abs.	%	abs.	%
According to motivational and orientation criterion						
EG	27	32	41	48	17	20
CG	46	56.25	25	31.25	10	12.5
According to axiological and self-fulfillment criterion						
EG	15	17.5	43	50.5	27	32
CG	44	55	33	41.25	3	3.75
According to creativity and self-development criterion						
EG	24	28.5	41	48	20	23.5
CG	57	71.25	19	23.75	4	5

For convenience, we have presented the Table 1.2 with arithmetic mean of the indicators demonstrating the level of acmeological culture development in future telecommunication engineers at the ascertaining stage of research and experimental work.

Table 1.2

Arithmetic mean of the indicators demonstrating the level of acmeological culture development in future telecommunication engineers at the ascertaining stage of research and experimental work

Level Group	High		Sufficient		Low	
	abs.	%	abs.	%	abs.	%
According to motivational and orientation criterion						
EG	13	15.5	27	31.5	45	53
CG	50	62	15	19	15	19
According to axiological and self-fulfillment criterion						
EG	7	8.5	24	28.5	54	63
CG	47	59	29	36	4	5
According to creativity and self-development criterion						
EG	5	5.5	17	21	63	73.5
CG	63	78.75	15	18.75	2	2.5

As can be seen from the table 1.1, the majority of the study participants belonging to the experimental group (EG) demonstrated a sufficient level according to motivational and orientation criterion. A low level was demonstrated by 20% of students and a high one – by 32%. The data obtained in the control group (CG) were the following: the high level was demonstrated by 56.25% of the students, the sufficient level – by 21.25% and the low one – by 12.5% of the study participants.

Comparison of the tables 1.1 and 1.2 demonstrated that the number of students with the high level of acmeological culture according to motivational and orientation criterion has risen by 16.5%. The number of those who were characterized by the sufficient level has increased by 16.5%. The indicator of the low level reduced considerably (by 32%).

The results obtained prove the effectiveness of the experimental work on the implementation of pedagogical conditions for forming future telecommunications engineers' acmeological culture.

However, there were no fundamental changes observed in the control group as long as no purposeful experimental work was done with its participants. As a result, the number of students with the high level of acmeological culture development reduced by 5.75%, the number of students

demonstrating the sufficient level increased by 12.25% and as for the students with the low level of acmeological culture, their number reduced by only 6.5%.

As can be seen from the table 1.1, 17.5% of students from the experimental group and 55% of students from the control group were characterized by the high level of acmeological culture in terms of axiological and self-fulfillment criterion. The sufficient level was demonstrated by 50.5% of EG students and 41.25% of CG students; as for the low level, it was demonstrated by 32% of EG students and 3.75% of CG students.

Comparison of the data represented in the tables 1.1 and 1.2 makes it possible to observe the following changes: the number of students with the high level of acmeological culture in the experimental group increased by 6.5% while in the control group this number reduced by 15%. The number of students with the sufficient level of acmeological culture increased in the experimental group by 14.5%, and reduced by 3% in the control one. As for the low level of acmeological culture in students, it reduced by 36% in the EG and by 2% in the CG.

According to the data from the table 1.1, 28.5% of EG students and 71.25% of CG participants were characterized by the high level of acmeological culture according to creativity and self-development criterion. The sufficient level was shown by 48% of EG students and 23.75% of CG students.

Comparison of the data represented in the tables 1.1 and 1.2 shows that the number of students with the high level of acmeological culture increased by 23% in the experimental group and reduced by 7.5% in the control group. The number of students with the sufficient level of acmeological culture increased by 27% in the experimental group and by 5% in the control group. The indicator of the low level of acmeological culture reduced by 50% in the experimental group and increased by 2.5% in the control group.

The high (sufficient, low) level of acmeological culture in future telecommunications engineers was considered to be the high (sufficient, low) level of manifestation of all the indicators. The table 1.3 represents the data on the general level of development of acmeological culture in future telecommunications engineers according to three criteria and the final stage of research and experimental work.

Table 1.3
General level of acmeological culture in future telecommunications engineers at the final stage of research and experimental work

Group \ Level	High		Sufficient		Low	
	abs.	%	abs.	%	abs.	%
EG	22	26	42	50	21	24
CG	49	61.25	26	32.5	5	6.25

The results represented in the table 1.3 have made it possible to conclude that 26% of the experimental group participants had high level of acmeological culture (in the control group – 61.25%). They are characterized by utter acmeological orientation, which is manifested in enduring interest in the job of a telecommunications engineer, self-education, self-understanding, self-improvement of their personality and professional activities. The students have clearly formed emotional and motivational factors of self-educative activities: high level of demands and efforts, strong need for achievements, awareness of their significance, for interesting and eventful life; the need for success in professional activities, low level of motivation for avoiding failures. Engineering results are notable for originality and uniqueness. Future engineers try to improve both their activity in general and its separate elements. They prefer performance results to the process itself; for obtaining success they are ready to take risk, but in a cautious and considered way. They create favorable conditions for obtaining acme and do not overleap themselves. When taking decisions, they avoid excessive authoritativeness and exorbitance, consider advice of the colleagues who are successful in pedagogical activity. Their system of value orientations is formed; the value of self-fulfillment is of great importance in this system.

The students from the experimental group who had 50% of the sufficient level (32.5% in CG) demonstrated that their acmeological orientation is expressed insufficiently, which is manifested by impermanent interest in the issues of professional improvement, self-understanding, self-education. Emotional and motivational factors of self-education are unclearly formed: future engineers do not have strict requirements for themselves, for other people, working conditions; their level of efforts is average. They are characterized by the need for achievements, for successful professional activity; however, excessive anxiety, fear of failure sometimes prevent them from achieving good results. The future engineers do not have clear ambition for obtaining acme in their professional and personal development.

The low level of acmeological culture was observed in 24% of EG students and in 6.25% of CG students. At this level, acmeological orientation, ambition for success, need for achievements are almost non-existent; they have high motivation for avoiding failures instead. The future engineers do not give due consideration to self-education, issues of self-improvement, self-understanding, as long as they do not consider their profession to be interesting, prestigious and as a means of the development of their profession and personality. They tend to be too interested in other people's advice, focus on other people's opinion; they do not have their own attitude or do not defend it when it comes to solving the problems of professional and personal development. The values of professional self-fulfillment are not formed. The future engineers have low indicators of personal and professional development,

their goals are unclear; they do not know what they work for and have a low level of efforts. They lack acmeological competence and are not familiar with basic acmeological concepts and terms. Acmeological literacy and capabilities are undeveloped. Very often these specialists are in the state of anxiety, lack of balance, impatience, emotional exhaustion because of a high nervous strain; they have no skills of self-understanding and self-regulation, self-rehabilitation.

Thus, proceeding from the data obtained according to all three criteria, it becomes quite clear that the testing of the model of implementing pedagogical conditions for the formation of acmeological culture in future telecommunications engineers has positive effect.

Results and their discussion. When analyzing the results of ascertaining and final stages of research and experimental work (tables 1.1, 1.2), it has been concluded that on completion of the experimental work on forming future telecommunications engineers' acmeological culture, significant changes were observed.

The control group involved technical elite students of Odessa National Academy of Telecommunications (Infocomms Faculty), where 90% of students showed good performance, their knowledge level was much higher than in other groups.

The experimental group involved students whose knowledge level was lower than that of technical elite. However, EG students were rather hard-working and, in our opinion, had good prospects for further development and self-improvement of their professional qualities.

The indicators of the level of acmeological culture development in future telecommunications engineers at the ascertaining and final stages of research and experimental work have significantly increased in the experimental group.

The above mentioned indicators in the control group have changed inconsiderably. For example, the number of study participants with the high level of acmeological culture belonging to the experimental group has increased by 16% while the number of the control group students has reduced by 3.75%. The indicator of the sufficient level in the experimental group has increased by 20% and by 2.5% in the control group. The indicator of the low level has increased by 36% in EG and by 8.75% in CG.

Conclusions. Thus, the results obtained prove the effectiveness of the substantiated pedagogical conditions (actualization of motivation for achieving better results in the profession; providing professional reflection; engagement into individual creative work) for the formation of acmeological culture in future telecommunications engineers in the course of their training as well as the model for their implementation.

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**MUSIC AS THE QUINTESSENCE OF TRANSCENDENTAL
SPIRITUAL VALUES**

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Abstract. *The article deals with the theoretical and empirical aspects of the problem in the personal spiritual transcendental sense of education in the sphere of musical art. It analyses the category of “spirituality – spiritual upbringing – musical education – transcendence of the personal spiritual education”. It demonstrates the projective research methods of the transcendental sense of students’ spiritual upbringing of the higher educational institutions in the field of music.*

Keywords: *spirituality, spiritual education, spiritual upbringing, music education, transcendence, projective method.*

Historically it happened that the response to music is a sure sign of how people fit into the social and spiritual individual's institute. Children for many years cannot accept classical art, including classical music, but in the case of adults, in particular talking about the future of professional musicians, the indifference to the classics clearly demonstrates their lack of spirituality. The reason for this phenomenon is the disappearance of the aristocracy and the sphere of social communications, mass desecration of culture and art. Instilling love to classical music cannot be the goal of music education in the education