

Methodological Provision of Technical Students' Vocational Education when Studying Humanities

Gazaliyev A.M.

Corresponding Member of National Academy of Science, Professor

Yegorov V.V.

Doctor of Pedagogy, Professor

Ogoltsova Ye.G.

Candidate of pedagogy

Yerakhtina I.I.

*Candidate of pedagogy, Docent, Karaganda State Technical University,
Kazakhstan, Karaganda, Mira Boulevard 56*

Doi:10.5901/mjss.2015.v6n4s3p542

Abstract

On the basis of the Karaganda State Technical University and Kazakh National Technical University (Kazakhstan) the programs for computer support were developed and implemented into curriculum that leads to qualitative changes during the process of the professional upbringing of technical university's students while learning humanitarian subjects. The aim of this present research is to achieve qualitative changes during the process of the professional upbringing of technical university's students while learning humanitarian subjects. For this purpose it is offered to re-orient the content of variative part of humanitarian subjects in accordance with professional needs of students. Research methods are based on the development and implementation into curriculum the programs for computer support teaching the humanitarian subjects (history, philosophy, sociology, politology, Culturology) for qualitative changes during the process of the professional upbringing of technical university's students. The results of the carried out experiment were presented, which allow making a conclusion about the qualitative changes during the process of the professional воспитання of technical university's students by means of using the professionally oriented programs for computer support in curriculum. Scientific novelty: at first the process of professional upbringing of the future technical specialists is being performed while teaching the humanitarian subjects that allow preparing specialists in a complex with special subjects. Practical relevance: the result of the received data while learning the humanitarian subjects we can observe the positive dynamics of the professional preparation technical university's students, that is expressed by the positive relation to one's profession and to representatives of professional community, understanding of the social mission of one's technical profession, realizing the social responsibility for acceptance the technical and technical and technological solutions, relation to oneself as the professional.

Keywords: *professional upbringing, qualitative changes, technical specialists, programs for computer support.*

1. Introduction

The present stage of the development interfaced by complicated social, economic, and political processes with great sharpness put before the society the problem of forming the personality of a young specialist who is a direct producer of material benefits, an essential resource of increasing the economic and cultural potential of the country. A high level of forming the personality of a young specialist becomes one of the conditions of the production and public relations sustainable development.

Quickly changing technologies, strengthening of their knowledge intensity require from a worker to possess flexible professional adaptation, a new level of culture. A profession, in the conditions of the market economy, acts as one of the means of the person's social security, self-affirmation, self-realization. Present day expert's competitiveness is defined not only by the width and quality of professional knowledge, but also by high culture, education, competence.

Recently education became the most topical social and pedagogical task and an indicator of the training quality. With destruction of the old Soviet ideology there appeared an ideological vacuum which led to the refusal of education as a purposeful activity of the society and teachers, to washing out ideals, to uncertainty of the educational process purposes.

Education at a higher education institution has two inseparably linked aspects: personal and professional. As for the personal component, it should be noted that recently there started forming the concept of education focused on new public political and economic conditions. This is education of the person of culture who absorbed the wealth of the native people and the people of other countries, who is capable and ready to carry out interpersonal and cross-cultural communication, with respect to the cultural wealth of others (Senator, 2010).

The other aspect of educational work at a higher education institution is vocational education. The purpose of higher education in present day conditions is forming a qualitatively new subject of activity having new thinking, research approach to professional activity, possessing the newest labor technologies, vision of problems of the activity in a wide context of the world outlook, humanitarian and methodological knowledge.

Unlike the traditional education placing the emphasis on knowledge of the values in the sphere of culture and art, vocational education at a higher education institution is aimed at forming the interest in the selected profession, understanding of its public mission, understanding of responsibility for the level of professional knowledge, forming the attitude towards himself as to a subject of professional activity. It is very important even in the years of studying at a higher education institution with the help of parents and teachers to get experience of adopting optimum decisions which would concern social, cultural, educational, and informative, professional activity. The problem of vocational education at a higher education institution consists in creating the interest in the profession, in developing the understanding of its public mission, the attitude towards himself as to a subject of professional activity (Lazarecheva, 2004).

It is the emergence of the concept "vocational education" that is the result of the discussion of whether a higher education institution is to be engaged in education. There are needed new approaches to the problem of vocational education of students at a higher education institution, the development and deployment of new technologies in the educational process. Traditionally the problem of vocational education at technical colleges was solved when studying specialized disciplines which contents promotes the students' education as future experts. But this task is to face not only the teachers of specialized subjects, but also compulsory chairs, in particular the teachers of humanities.

As an alternative to the existing situation there can be proposed partial reorientation of studying humanities at technical colleges to the solution of the problem of vocational education at a higher education institution. Designing the content of humanities provides the allocation of the variable part which is harmoniously combining the requirements of state standards of education and the features of vocational training. It would permit to solve partially not only the problem of qualitative changes in the process of vocational education of students, but also to stir up considerably students' activity when studying humanities.

In the process of students' vocational education when studying humanities we understand qualitative changes as a created positive relation to work, to people in the course of work, to themselves as to subjects of professional activity. The criterion of efficiency and optimality when determining qualitative changes in the process of professional education is the final result of the process of vocational education at a higher education institution.

One of the conditions of solving the problem of qualitative changes in the process of vocational education (formation at technical students of the positive relation to work, to people in the course of work, to themselves as to subjects of professional activity) is the development of interest in professional activity when studying humanities (Kosintseva, 2005).

Thus, the need of qualitative changes in the course of vocational education at technical colleges when studying humanities, in theoretical and experimental justification, the development of computer technologies, their effective application in the educational process of a higher education institution defined the relevance of the present study connected with the development of electronic educational and methodological support of this process.

2. The Analysis of the Latest Researches and Publications

The problem of qualitative changes in the process of the professional upbringing was studied at different times by the following people: Bychkova I.I., Veter A.N., Grebenyuk G.E., Gumenyuk O.M., Zhulkevskaya V.A., Kravchuk G.T., Prusak V.F., Prokofyev E.G., Podtergera E.N., Stelmashenko V. P. Another big impact into research of organizational and pedagogical basis of managing the process of professional upbringing in technical university was performed by Gavriilyuk O.A., Melnichenko V.V., Sergeeva L.N., Fursa O.A.

The analysis of work done by the above mentioned scientists showed that the problem's solution of the qualitative

changes in the process of the professional upbringing of the Technical University's students they consider to be, first of all, at the moment of studying the special subjects by students, where the main aim is to provide the professionally valuable knowledge, skills and expertise.

Unsolved task in this field is still forming the professionally valuable qualities for the students, positive relation to one's profession and to representatives of professional community, understanding of the social mission of one's technical profession, realizing the social responsibility for acceptance the technical and technical and technological solutions, relation to oneself as the professional.

3. Research Methods

This study was carried out on the basis of Karaganda State Technical University and Kazakh National Technical University n.a. K.I. Satpayev (Kazakhstan).

The basis of the present study there became the development and deployment in the educational process of a higher education institution of programs for technical support of teaching humanities (history, philosophy, sociology, political science, cultural science) for qualitative changes in the process of vocational education. To these programs for technical support there are referred: "History of formation and development of the mining and processing complex of the Republic of Kazakhstan", "Origin and development of architectural art and construction in Kazakhstan since the ancient times till the end of the XVIII century", "Sociology and psychology of technical work", "Social investments and social responsibility of business", "Technique philosophy".

4. Basic Material

Presentation of the training material is provided by means of the profession- oriented problem lectures where in parallel with the obligatory training material there is offered the material connected to professional features of students (mining, metallurgy, transport logistics, construction, etc.).

As an example we will consider the structure and content of "History of formation and development of the mining and processing complex of the Republic of Kazakhstan" program which is used in studying history by students who are trained in "mining" specialty. This program consists of seven subjects which deal with a certain temporal period of national history. Later on, having selected the first subject for study, a student is offered a lecture, diagrams and tables, test jobs.

By means of using in programs for computer support the problem, profession-oriented lectures, diagrams and tables, maps, test monitoring there is achieved the increase of students' activity. There is formed a situation of professional enthusiasm, thoughts, search that affects fruitfully not only training activity, but first of all, the process of students' vocational education. There are also observed qualitative changes in the process of vocational by a number of indicators: students show their interest in the profession; for preparation for classes they use additional profession-oriented literature; they are more sure of perspectives of the profession development, understand the significance of the profession for the society and the state; they are ready to bear responsibility for acquiring qualitative professionally significant knowledge, they are looking forward to self-improvement.

Students bear responsibility for the quality of the acquired professionally significant knowledge as this program permits to start studying the next subject only if a student collected 60% and more correct answers to test questions of the previous subject. Otherwise the program suggests a student to return to the studied subject again (locking the access to the next subject).

Students are also offered a list of additional literature to which they can address when preparing summaries, term papers and scientific projects.

The developed as a result of experimental work programs are successfully used in seminar classes, in students' independent work. In a lot of respects they showed how there is achieved the increase of activity in the process of acquiring professionally significant qualities as in their implementation there was formed a situation of professional enthusiasm, thoughts, search that affected fruitfully the process of students' vocational education.

For determining qualitative changes in the course of vocational education when studying humanities at a technical college as a result of using profession- oriented programs for computer support based on the criteria developed earlier and indicators of vocational education of technical college students there were defined three levels of students' vocational education at a technical college when studying humanities:

- an insufficient level (a shallow idea of purposes and tasks of professional activity, absence of interest in future profession, unwillingness to adapt the knowledge and abilities taking into account professional needs, absence

- of understanding of public sense of the selected profession);
- a needed level (a positive directivity of interests in future professional activity, expressed need for educational achievements and professional self-expression, partial association of themselves as future experts);
- an optimum level (expressed interest and positive attitude to the profession, understanding of its public mission, certainty of professional plans and intentions, reality of the assessing positive and negative points of the future profession, realization of social responsibility for acceptance of independent decisions, realization responsibility for the level of the professional knowledge).

Based on the experimental data we can analyze changing the indicator of levels of vocational education in groups throughout the experiment (in total 308 students participated in the experiment: students of specialties "Technology of Machines and Equipment" and "Geodesy and Cartography") (Table 1).

Table 1 – Assessment of technical students' vocational education levels throughout the experiment

Level	Beginning of the experiment		End of the experiment		Result	
	persons	%	persons	%	persons	%
Optimal	55	17.8	146	47.4	+91	+29.6
Needed	141	45.6	126	41	-15	-4.6
Insufficient	112	36.6	36	11.6	-76	-25

Interpreting the obtained data we note that upon completion of the experiment in experimental groups there are observed qualitative changes in the process of vocational education of students at technical colleges when studying humanities. Such a conclusion can be drawn in connection with the increase in the number of students with an optimum level of vocational education from 17.8% in the beginning of the experiment to 47.4% after its completion, as well as with the reduction of the percentage share of students with an insufficient level of vocational education from 36.6% to 11.6 % (Ogoltsova, 2012).

5. Results and Discussion

As a result of the obtained data we came to the conclusion that the use in the educational process of profession-focused programs for computer support gives qualitative changes when studying all complex of humanities at technical colleges. Besides, it is revealed that the use of these programs affected positively the results of students' progress. For an example we will analyze students' progress in discipline "History" within an experimental period. This work was done on the basis of Karaganda State Technical University (the number of students was 288, this was the number of students who were trained in "mining" specialty and participated in the experiment from this higher education institution) (Table 2).

Table 2 – Students' performance rating in discipline "History of Motherland" throughout the stating, forming and controlling experiments

Groups	2007-2008 ac.year	2008-2009 ac.year	2009-2010 ac.year	Total
	Grade point average	Grade point average	Grade point average	Grade point average
Control	3.35	3.38	3.42	+0.07
Experimental	3.38	3.54	3.87	+0.49

Analyzing this Table, we see that in experimental groups the GPA progress in history increased from 3.38 to 3.87, whereas in control groups only from 3.35 to 3.42.

Thus, summing up the made pedagogical experiment permits to claim that the experimental program of qualitative changes in the process of students' vocational education as future experts of the technical sphere, permits to cover the maximum of educational objects, to realize strategy of the profession-focused educational activity, to describe the complex of pedagogical conditions, various communications with the classroom work, their interference. It promotes the removal of contradictions between the objective need of changing the approaches to the process of vocational education for technical colleges and insufficient readiness of the problem in present day conditions of higher education, both in theoretical and in practical aspects.

Within the declared problem we consider studying humanities at technical colleges not as an addition to basic professional education, but as the most important element of training experts in the technical sphere. It is possible to

observe positive dynamics of vocational education of students at technical colleges when studying humanities which is expressed in the positive relation to the profession and representatives of the professional community, the understanding of public mission of a technical profession, the understanding of social responsibility for adopting technical and technological decisions, the attitude towards himself as to a professional.

We consider that the described way of developing the process of vocational education of students at technical colleges when studying humanities is perspective in the context of modernizing vocational education and the present day economy on the whole.

References

- Kosintseva T.D. Professionalism as value in student's moral education [Text] / T.D. Kosintseva//Proceedings of the conference "Russian education in the 21st century: problems and prospects". – Penza, 2005. – P. 53-55.
- Lazarecheva Ye.S. Gender aspects of social and humanitarian disciplines at technical college: problems and versions of solutions [Text] / Ye.S. Lazarecheva//M.: Science, - 2004. – 178 p.
- Senator S.Yu. Modern requirements to training of students of higher education institution [Text] / S.Yu. Senator//Pedagogy and Psychology Bulletin. - 2010. - No. 1. 38-41 p.
- Ogoltsova Ye.G. High-qualitative changes in the system of technical students' vocational education when studying history of Kazakhstan [Text] / Ye.G. Ogoltsova//Bulletin of Academy of Pedagogy of Kazakhstan". – 2012. – No. 2. 56-62 p.