



---

## ROLE OF FLEXIBLE EDUCATIONAL MODELS FOR LIFELONG LEARNING

M. Pehlivanova\*, Zl. Duchevea

Technical College – Yambol, Tracia University, Stara Zagora, Bulgaria

### ABSTRACT

The efforts of the Technical College are aimed at creating of flexible, updated curriculum in some specialties and professions, carried out on the basis of best practices in Europe. The aim is to overcome inconsistencies between existing qualifications and labour market requirements for better implementation of the graduating students. The result of investigation shows that the performance of flexible education system improved the quality of the acquire knowledge and professional competence.

**Key words:** flexible education, e-learning, quality of the education, life long learning

### INTRODUCTION

For the prosperity of each person is necessary, the education and possibility of acquiring different competences, to be available, not only in the range of the compulsory education, but also after the beginning of an active social life, if possible, without taking too much time from the professional, social and personal activities. This demands the usage and integration of classic and modern educational models and establishment of a new ones, which will give the opportunity, not only of acquiring knowledge and skills in a modern environment, but also to develop the intellect and the social skills of the students, to change the accent of the education, using interactive methods and change in the of the roles of teachers and students. At the same time is necessary the education to be held during a convenient for the student's time, place, way and rate.

For evaluation of the qualitie and the effectiveness of the incorporated e-learning, was made an inquiry research with the participation of students from the different subjects from Technical College – Yambol.

---

\*Correspondence to: *Margarita Pehlivanova, Technical College – Yambol, Tracia University – Stara Zagora, Graf Ignatiev” street №38, Jambol 8600 BULGARIA, margopehlivanova@abv.bg, zl.duchevea@abv.bg*

We based on results from the implementation of e-learning makes recommendations for its improvement.

### THEORETICAL TREATMENT

In connection with the modern understanding of the role of higher education and improving the quality of education, in 1996 UNESCO determine lifelong learning as one of their main functions. Modernization of higher education is associated with lifelong learning as a new conception of education which caused from economic, social and cultural changes in society. Lifelong learning is prompted by the rapid obsolescence of information of an aging population and prolongs the period of active occupation of the changes in values and manifestations of the consumer behaviour and others. The idea reflects the relationship between different levels of education, different types of education, between education and life. In lifelong learning, accent is on its accessible and flexibility. It based on experiential learning and social experience, it's not limited within a certain period of human life, subordinate to different purposes, includes different practices and social backgrounds, various types of activity and placing trainees to situations continuous choice. The result of philosophical rethinking of strategy in education are the trends for the transition from primarily informational forms to active forms and methods of training with elements of

problem education, scientifically search and extensive use of self preparation in the learning process.

The term "flexible learning is associated with e-learning, it reflects a contemporary summary vision and concept of education. We accept that "flexible learning" is socially conditioned, that it is a stage in the process and the modern development of the educational system, leading to a change in the views of trainers and trainees and is characterized by:

The development of new educational culture that supports continuous access to training and qualifications of each volunteer;

Rejection of many barriers related to time and place of training;

Afford an opportunity to providing quality new services and resource security for the educational process that meet the specific needs of each individual learner.

Flexible training is cost effective and advantageous for the Technical College, they may use decentralized resources.

Understanding of flexible learning models and lifelong learning includes not only duration, but a complete change in higher education, ranging from changing the curricula and programs, a broad and democratic access to it, improving the organization of training, implementation of modern educational technology, evaluation and improving the quality of training and receipt of a valid diploma.

Particular attention is paid to the flexibility offered opportunities for learning, is seeking options for optimal combination of needs and interests of enhancing the education and training, and balancing between work, family and social engagements of students.

To meet the needs and expectations of society, universities focus their efforts on "key areas for action" as in the European Commission Memorandum on Lifelong Learning" (1):

Investment in human resources;

Use of new methods of teaching and learning;

Improve ways to understand and evaluate participation in the educational process and the results thereof (including non-formal and informal education);

Providing easy access to high quality information and advice on education and training for all age groups;

Creating opportunities for continuous learning as close to home for trainees.

Are changed technologies to access information, learning developing from stationary and collectively to mobile and individually. In flexible models of training are change the levels of student interaction with the environment, resources and other actors (teachers, experts, students, etc.). Educational technologies have different specificity, but are united by common ideas and priority approaches.

We can specify the topicality of the personal and interactive approach. We accept the approach of leading an active interaction between teacher and students. Emphasis is placed on methods of cognitive, practical and scientific activity, actually on knowledge.

The process of education is seen as a complex dynamic process of advisability processing of information flowing in the teaching system. It is aimed not only to the intellectual development of the trainees, but to their feelings, attitudes and value systems.

The new model of flexible learning is directed towards the learner, is associated with information technology and is characterized by:

Subjects are based not only on the printed books and electronic libraries, and object-oriented multimedia resources. Learners can construct their own knowledge and to learn according to their abilities, interests, preferences and cognitive features. They participate in the formulation of the objectives of education and take responsibility for their actions. They manage the process of learning, working collectively with other students, participate in discussions and seek effective learning;

The role of teachers is as experts and mediators;

Theoretical basis of the new model is the project pedagogy, typical of university professional education. Achievements of students are evaluated on the basis of the outcome. The product of the course work assignments and may be presented, defended and published. The lecturers encourage self-assessment;

Collective learning and work dominate the competitive learning. Work as teachers individually and in small groups. They may also have student assistants who help their colleagues in the use of new tools to solve specific problems;

Training opens to the needs of the market - one of the tasks and problems are taken from real life and in certain cases are formulated by the students themselves and decide collectively with the participation of teachers;

The Space, time, equipment and all training materials and software used in the flexible and in the efficient manner;

The main task of lecturers is to organize and encourage learning initiative to provide students with guidance, processing and utilization of appropriate information and data according to specific goals and objectives. The lecturer appears more in the role of expert advisor, mediator, who helps students, find their own path and navigate information in a deep social climate.

Lecturers helped to the students to walk effectively the rich information resources of global information systems, to find the most appropriate learning materials (in print or electronic format), to make them structured, arranged and to rationalize information. They can work as individually so in small groups with students, allowing them to develop as the critical thinking skills so and self- evaluation.

The efforts of the Technical College are aimed at creating of flexible, updated curriculum in some specialties and professions, carried out on the basis of best practices in Europe. The aim is to overcome inconsistencies between existing qualifications and labour market requirements for better implementation of the graduating students.

The efforts are directed towards realization of a better practical training by improving interaction between business representatives and students participate in real production conditions. The accent in the learning process in the College is placed in communication development and improvement of maternal and foreign languages, computer and information literacy, motivation and skills for lifelong learning and self-education, interpersonal capabilities for inter-cultural communication and others.

Because of the demographic problem in recent years, we see a tendency for increasing age of the candidates for training in the College. People in the adult age prefer part-time, evening or distance learning, because they work and have additional family and civil engagement. Because of their high professional and social backgrounds, they are motivated

and prefer the option to choose where, when and how to teach. This requires organization and maintenance of functioning structural environment. Educational institution becomes an institution that carries out a leadership role in acquiring of knowledge by using different theories, philosophies and methods of teaching and learning, allowing to the students access to a large amount of information, expert knowledge, exchange ideas, opinions and communicating with teachers and other trained.

The learner can work in a dynamic and interactive multimedia learning environment where, in addition to the lecturer and other students can communicate and work with their virtual friends. Student becomes a member of the global collective learning communities.

In training they get a computer learning systems that enable collective work (groupware, hyper groupware, and computer supported collaborative work systems), learning while doing, and just-in-time and just-in-place learning, electronic performance support systems, and others. Trends in training indicate orientation to create computer environments for distance learning and collective.

In congruence with the trends and results of the survey (about blended learning) except the improvement of e-learning, the development of skills of students to work "face to face" and to achieve common goals. Additional elements for presentation of information are non only lectures, but assignments in small group, individual tasks, observation, group discussions and case studies. Students are given a questionnaire for establishment their satisfaction of the quality of education, self development of their specific professional and personal skills and ability to recommendations. The majority of surveyed students in "Food Technologies" express the opinion that they prefer electronic tests for final verification. In the system of e-learning includes ongoing tests that provide feedback to students on their progress in learning. These are snapshot of progress in training and showing the teacher and student what is the current level of mastering. Are constructed and available options for self-tests (electronic and printed) on the separate modules of content.

## METHODOLOGY AND SURVEY RESULTS

The concept of the E-learning in Technical College –Yambol, is based on the idea of using elements of electronic leaning and the relevant technologies, accepting the idea, that e-learning is a type of learning, which preparation, implementation and management requires using modern information and communication technologies, including Internet. It is an attribute of the global information society - born by the necessity of the modern student for more flexible and open education and becomes possible thanks to the progress of the education, information and communication technologies. The goal of the activities is not only to enrich the traditional systems and approaches for learning, but also to develop and integrate new pedagogical technologies in an interactive environment. (2)

During the theoretical validation of the development and integration of e-learning system in the college, we accept that the WEB-based learning concept is indissoluble part of the Information Society concept, technological platform of which is based on digital multimedia and global communications. Education use www as a virtual environment, for introduction of the subjects for realization of the learning process."

Based on traditions and cultural mission, of the Technical College -Yambol, is placed the e-learning. We could say that, the model, on which the learning is based, has five main components (external environment and conditions; policy; integration; practice; experience and effectiveness) is suitable for our work.

E-learning in the College is based on MOODLE. In result of the four years of work of the College lecturers are placed the foundations of a technical and informational base for future distant learning, virtual library, containing materials for lectures and exercises on some of the subjects; tests; glossaries for the different subjects. This is a base for raising the quality of learning, it forms a permanent interest in the students towards the studied subjects; the information is being used by the students after the presentation of the main points on the subject. The students are receiving individual tasks, the results from which are being sent to the lecturer via e-learning system server. Propositions for

changes in the College regulations have been made, to stimulate the lecturers, developing e-courses, by the means of increasing their qualification, possibility for career growth and financial stimulus's. Study materials in the self- training modules are developed and approbated, also tests and glossaries in the college system of e-learning for the following subjects: Informatics; Automation of the Engineering; Programming languages; Engineering graphics; Electrical engineering and electronics; General and Inorganic Chemistry; Biochemistry; Microbiology and Ecology. (3)

In last four years we conducted a few studies with students from different courses and majors. We defined a various purposes, associated with pedagogical characteristics, performance and students' opinion of quality of e-learning in the College. The goal was the gather information for analysis of the organization, management and the quality of learning, when using modern technologies. The aim of the last study includes: effectiveness of the electronic courses and the quality of self-preparation of the students; to analyze the students' preferences to e-learning and increase their self-motivation for learning and using of electronic tests and others.

For evaluation of the qualities of e-learning activities and effectiveness, was made an inquiry research with the participation of 61 students from the following subjects: Automatics, informational and controlling techniques and Food technologies; 1st and 2nd year. 37 of the students, which took part of the survey, are from the first specialty and 24 – from the second. They are divided into three age groups: First group – 19 years old (23 people); second group 20-21 years old (26 people) and third group – 22-26 years old (12 people). 53 of the students are first year and 8 of them– second year of study. 53 of respondents - are students at first and 8 - the second course, 35 of those surveyed were men and 26 – women.

34,43% of the enquired students, didn't have an experience with e-learning up until this moment. This confirms the conclusions that this type of learning is not integrated within the High-School Educational system. Therefore it's difficult to use this flexible model of education.

The data from the survey for the qualities of the e-Learning shows, that 67% of the inquired students prefer combined learning. This means that they accept the e-learning not as a new model, but as an opportunity for improving and to overcome of the shortcomings of the traditional forms of learning. The fact that 24,5% of the students, most of them from the

third age group, with more social experience and partly occupied, prefer the e-learning, confirms the standpoint about the meaning of the new educational technologies for increasing the equal social possibilities for education and qualification during the entire life.

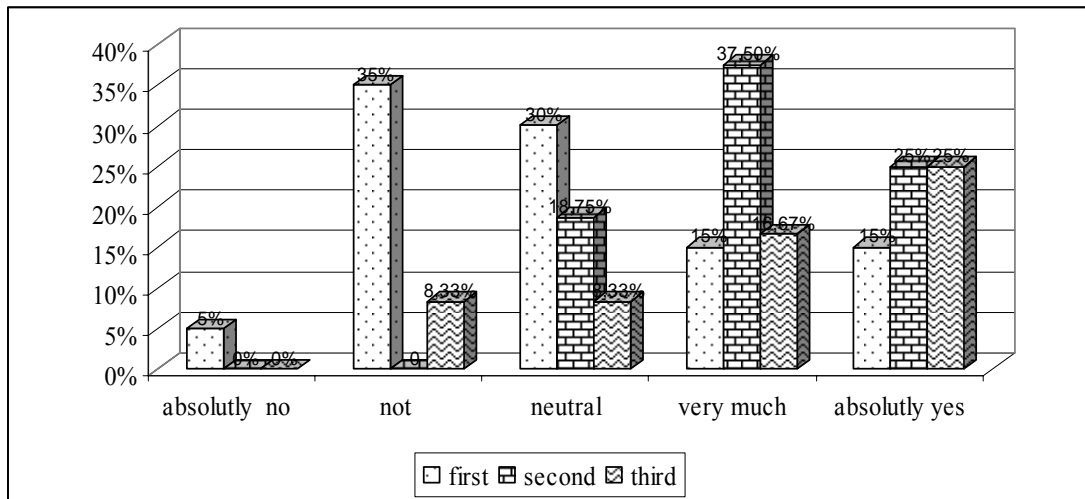


Fig. 1. Students' opinion of the introduction of e-learning

Compared with the first survey was the increasing trend of students' preferences for the use of e-learning specially for the major "Food

technology" second course - high scores are 72%.

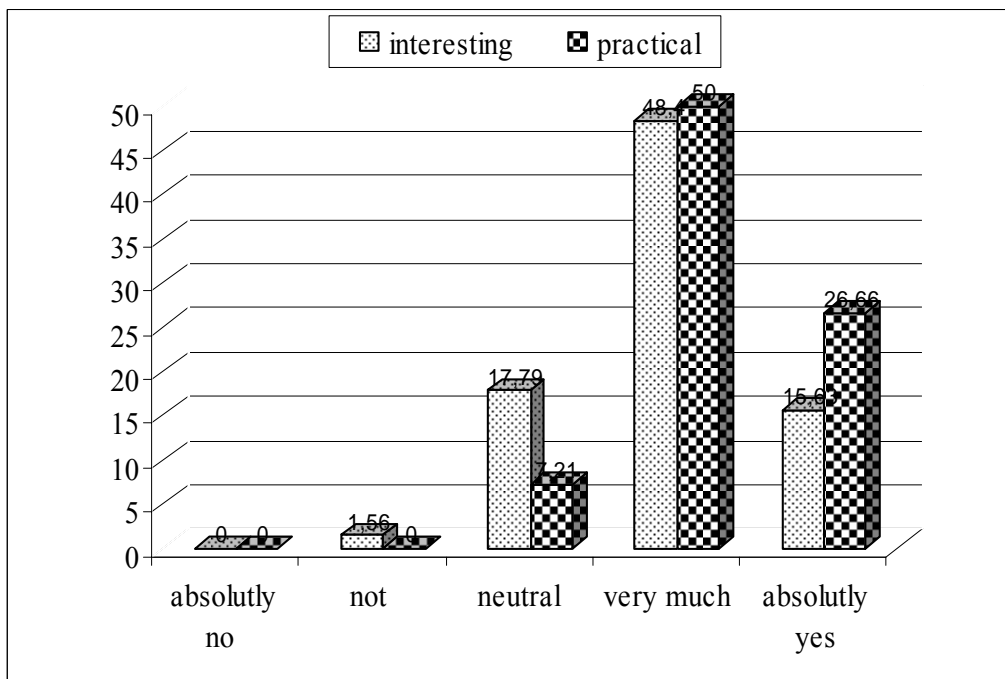


Fig. 2. Students' opinion of the usefulness of e-learning

After acquiring experience in e-learning environment, students take courses content like an interesting and practically useful. The bigger part of the enquired students, have pointed at the choice of time for contacting the

lecturer, choice of their own paste and individual choice of the study modules. Next is pointed the opportunity for forming intellectual skills and habits, which are very important for developing creativity and adaptation to the continuously

changing conditions and requirements for the specialists.

The results of the all observations and enquiries with student and lecturers are that the prevailing opinion is for implementing e-learning as a part of combined learning.

Most of the lecturers, implementing and working with the IT in the College, point at the following advantages of the e-learning: the possibility for easy updating of the material, multiple usage of the study materials and automatic control of knowledge and increase of the motivation for systematic learning.

Our opinion coincides with the opinion of Specialists' researches and experience from different countries develops various options of e-Learning. For the moment most preferred option, by the students, is the "blended learning". It gives the opportunity for combining different methods, software for blended activity, web-based courses and practice for knowledge management. It combines different activities, which are based on real situations, learning within traditional environment (face to face), self-preparation, work in small groups etc.

A part of the students prefer wider integration of the modern communicational technologies in the process of learning. 60,6% of the students think, that the effectiveness of the pedagogical communication will be better, when it is not only made through a computer, but directly, because this way it affects not only the cognitive, but the emotional sphere as well. The lack of direct contact could lead to psychological problems with the students, due to the lack of competitiveness with the others from the group and the immediate support of the lecturer. The student is a social personality and needs a membership within a well-integrated group, conducting common activity and having identical goals and tasks. A good feedback could minimize these problems.

Regarding the organization of the activities within the range of e-learning, 61,00% of student's preferences are for working in small groups, and 32,8% appreciate the possibility to be more independent and the chance for self-expression. 29,5% think that discussions and project work allows realization of the pedagogical technique "communication between equals" among students and lecturers and triggers positive emotions and satisfaction. They realize that, this way they develop their intellectuality, improve their communicative skills, culture of dialog, free speech – spoken and written. They have the chance to express their own opinion, to communicate with the other participants in the education process, regardless of their position. The effectiveness of teacher's communication in the virtual study environment could be measured with the achievements and the attitude of the students towards the learning process and the realization of the targeted goals.

The modern vision about the changed professional roles of the teacher, when using informational and communication technologies are confirmed with the answers, given to the questions for the self-expression opportunity he is giving to his students. In the 21-22 age group of the enquired student with experience with e-learning, the level of correlation is quite high ( $G=0,75$ ).

The results from the survey of graduate students shows that 79,17% of them along with the diploma of bachelor degree, have received additional professional teacher qualification, instructor for drivers training, computer literacy and other. That gives a better chance of graduating specialists in professional and social realization. This conclusion confirmed by the opinion of the majority of graduate students who are satisfied with the quality of preparation quite and to large extent.

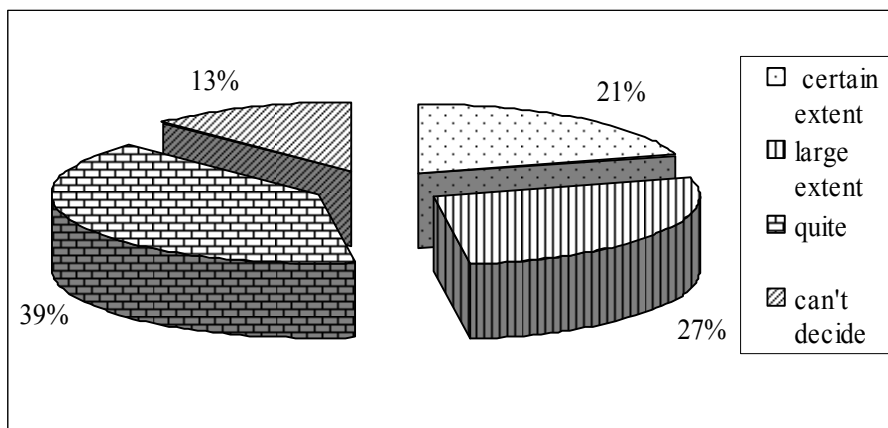


Fig. 3. Students' opinion of role of training for professional realization

Lecturers develop and form students' professional skills, skills for team-work, critical thinking, tolerance and a need for life

long learning, which is very important for their mobility and complete realization in the globalization context.

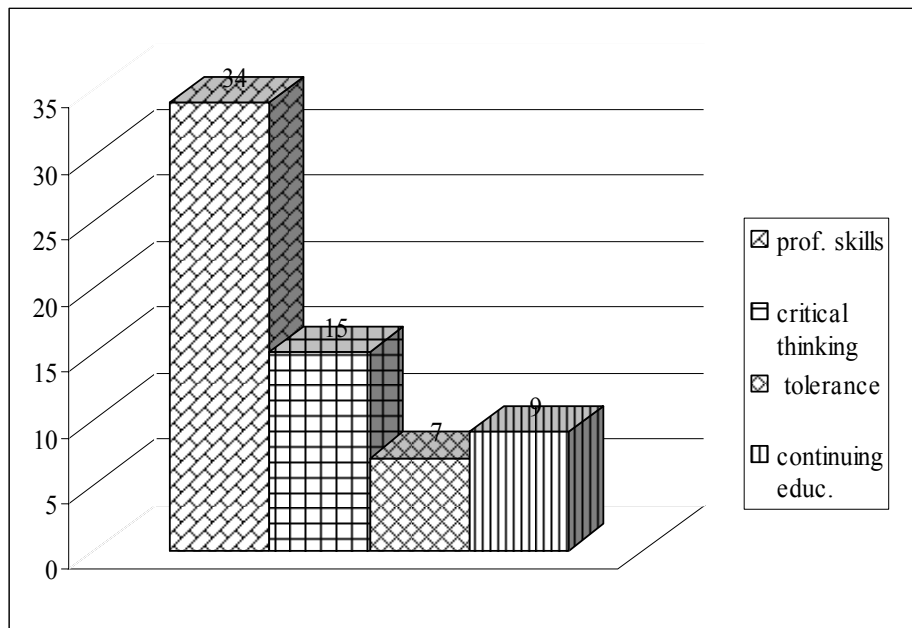


Fig. 4. Students' opinion of role of developing training

## CONCLUSIONS

Analysis of results and data from surveys enable us to make the following conclusions:

There is increasing preference to educational materials available on the web site of the self preparation of the students;

Continue to improve the system for e-learning as extending the opportunities to work in groups and the introduction of gaming as training methods;

There is increasing the autonomy of the students in solving real practical problems.

## REFERENCES

1. Lifelong Learning, [http://europa.eu/legislation\\_summaries/other/c11047\\_en.htm](http://europa.eu/legislation_summaries/other/c11047_en.htm)
2. Pehlivanova M., Ducheveva Z., Dineva S. (2009). Advantages of the Web-Based Training for the Increasing Quality of Preparation and Self-Preparation of Students from the Specialty "Food Technology", The 4th International Conference on Virtual Learning ICVL 2009, University of Bucharest and "Gh. Asachi" Tehnical University of Iasi.
3. Dineva S., Nedeva V. (2009). Development Interactive Courses of Education in Microbiology Based on E-Learning System Applying in Technical College of Yambol. The 4th International Conference on Virtual Learning ICVL 2009, University of Bucharest and "Gh. Asachi" Tehnical University of Iasi.