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INTERACTIVE METHODS AND INNOVATIVE TECHNOLOGY FOR E-LEARNING THROUGH „YOUTUBE“ CHANNEL[82]

Ventzislava Angelova
High School of Industrial Technology Evlogiy Georgiev
Silistra, Bulgaria
Tel.: +898 252 032
E-mail: wenzi_angelova@abv.bg

Abstract: *Proper use of modern educational technology enhances the effectiveness of teaching and learning. However, this requires the use of new pedagogical approaches that allow for collaboration, communication and mobility. Such learning technologies include virtual worlds, interactive multimedia technologies, wireless technologies and the use of mobile devices. The research interest focuses on the topical issue of using computer-based educational and multimedia and digital technologies in the learning process in different disciplines and how the use of these particular technologies affects motivation to learn. It is becoming more and more clear that the attempts for structural, organisational and institutionally imposed changes will not lead to the desired result if opportunities are not found to improve the quality of the learning process 'from the inside' by rethinking the focus and characteristics of pedagogical impact and interaction. To achieve good results Bulgarian schools need innovators in the classroom who can intuitively feel the new trends, ask the right questions, formulate the tasks to get them solved and thereby be in line with the relevance of what is happening in society and the need for timely changes in education. The application of interactive methods enhances the effectiveness of learning, which depends on the degree of acquisition of knowledge and skills in the learning process, which forms relation to the field of study, i.e. technological learning. The effectiveness of learning is not only expressed in the formation and consolidation of knowledge and skills, but also in their transfer from one area to another and their application in different situations, which leads to the activation of students' cognitive activity in technology education classes. Cognitive activity is associated with positive motivation and sustained interest in the studied area. All this in aggregate is achieved by an appropriate combination of methods and means of learning through activity, and the most appropriate are innovative methods. I looked for an approach in which learners are engaged in active actions in gaining basic knowledge and enriching their knowledge. What is new about this approach is that the material is presented in the traditional way of teaching.*

As a teacher of vocational subjects, I feel satisfied when I apply different interactive and innovative technologies - I use innovative technology of teaching through the „YouTube“ channel in the classes of Teaching Practice - Technology and Technique of Food Production and Teaching Practice - Food Quality Control. Interesting results are obtained from its application. Students become more and more experienced, knowledged, skillful and competent in working on the subjects of vocational training. The use of the „YouTube“ channel frees the teacher from the need to repeat well-learned lessons and allows for more active participation of students in the conduct of lessons.

Keywords: *Modern education, YouTube, Teaching, New practice, Technology*
JEL Codes: *L10, L11*

INTRODUCTION

In a period of rapidly evolving technologies, Bulgarian education faces the challenges of the modern world. It places demands on the formation of the personality, its professional training and qualification. New technologies are an indispensable part of social life and thus become necessary in modern education. The European framework for digital competence includes five areas: information literacy; communication and collaboration; digital content creation; safety and problem solving. These requirements, stemming from European trends to improve the quality of education, necessitate a paradigm shift in learning as a unity of learning and teaching. Modernising the learning and teaching approach strengthens the teacher-student relationship, the lasting acquisition of knowledge and skills, and influences students' self-esteem.

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EXPOSITION

Theoretical analysis of the problem: trends and innovations in pedagogical practice

Nature and characteristics of interactive methods

Interactive teaching methods is such form of education, which offers approaches for active involvement of students in the lessons and learning process. Through interactive methods, students' attention is held and their thinking and imagination are provoked, leading to more active participation of students in the learning process, the taught material and achieving better learning outcomes.

The new educational paradigm determines a change in the roles of the teacher and the student, in the implementation of pedagogical interaction, a change in the goals that society sets for education, in the educational technologies with the help of which these goals are realized. In order to meet all these demands, the challenge for teachers is to skillfully integrate modern methods and techniques with the traditional educational model, the use of which can ensure:

The development of better memorization, imagination and expression of thoughts, development of logical constructive thinking, development of the capacity for clearly and precisely structured knowledge, development of the ability to relate to other learners and learners, development of personal competences, skills directly related to the experience of their application in practical activity.

The advantages of the interactive educational model are:Integrative communication, exchange of activities, change of state of the participants, reflection of self activity (rethinking, self-evaluation), increasing the activity of the learning process, provides rapid feedback.

Nature and characteristics of digital forms

Contemporary approaches in e-learning are associated with the introduction of innovative ICTs that provide new opportunities for teaching and learning, taking into account the individual needs of learners. The introduction of diverse and innovative forms of e-learning takes priority. The European Commission's Digital Education Action Plan focuses specifically on the potential of emerging digital technologies to deliver high quality education and learning (European Commission, 2018). According to the EU Commissioner for Digital Economy and Society, Maria Gabriel, "modernisation of education is imperative" in order to respond to changes in the digital society by acquiring digital skills to develop people's talent and potential"

Development of a methodological unit by using an innovative technology of learning through the „YouTube“ channel.

Origin of the idea to use the „YouTube“ channel in the teaching laboratory hours

The COVID-19 pandemic confronted the education system with a new situation that required an urgent change in the current way of working. New knowledge and skills had to be acquired quickly, as well as changes in the attitudes of everyone involved in the education system. For the authorities, teachers, parents and students the dilemma of health or knowledge emerged.

Training in the ORES has both pros and cons, respectively being more suitable for certain situations and less suitable for others. The ability to learn from absolutely anywhere, without the need to travel, is perhaps one of the greatest advantages of e-learning. Another advantage is online interactive tools, constantly available learning resources, etc.

For distance learning to take place in an e-learning environment, the availability of appropriate electronic devices and e-learning resources is necessary. Providing the educational process with electronic devices, internet connectivity, access to electronic platforms, etc. is also an important prerequisite for integrating technology into the learning process. This is essential for the effectiveness of distance learning as it provides an opportunity for active interaction between the teacher and the students and between the students themselves. The vast majority of students had electronic devices in their home that they could use for learning purposes. There were some students who I found difficult to connect with, especially those from vulnerable groups.

I also had another challenge - "How will I demonstrate the laboratory analyses?"- an essential part of the subjects I taught

The use of a variety of methods and technologies to successfully conduct the distance learning activities failed to contribute to students' understanding of the laboratory analyses. I saw low motivation to learn and engagement.

I searched for the best solutions for them, yet I could not show them the practical performance of a lab analysis from home. I lacked equipment, lab glassware, reagents, etc.

Another very significant problem was looming - the State Examinations of the twelfth graders in the practice of the profession for the acquisition of the third degree of professional qualification. Here a tremendous amount of preparation and constant opportunity for laboratory exercises of the students was required.

Analyzing the situation and trying to answer a number of questions related to supporting the learning process for better mastery of knowledge and skills, I came up with the idea of making videos of the laboratory analyses during the short school attendance and making them available for the students to watch. The videos were large in size and I could not share them either on the Teams platform or on messenger or ABB post. This prompted me to use the „YouTube“ channel. I made a „YouTube“ account which allowed me to have my own channel. I attached the videos to "my library" and then forwarded links of the filmed lab analyses to the students by class in their wiki-groups. In this way, students were able to observe the actual performance of the lab analyses, to learn better and faster the material by having constant access to the resources. This innovative technology of learning through the use of „YouTube“ channel has also yielded positive results in preparing graduating students for exams.

A brief description of „YouTube“

„YouTube“ is the second search engine after Google. Creating video content is one of the big pros.

It is the most popular video sharing site in the world. A variety of content is uploaded to „YouTube“.

Unregistered users can only watch the videos and registered users can also upload unlimited videos/

„YouTube“ can also be a great place to learn interesting things about the world of science. Complicated concepts in physics, chemistry, astronomy, biology can be conveyed in a more accessible way for everyone on "YouTube". Lessons, strategies, specific topic training, demonstrations, etc. can be shared.

Steps to create your own channel on YouTube:

- 1.Login in „YouTube“ (www.youtube.com)
- 2.Click on the register button in the upper right corner. Then, log in with your Google account with which you want to manage the channel.
- 3.After you register, click on the profile picture and go to the "settings" menu.
- 4.In settings, you will find the "create channel" option. Click on it.
- „YouTube“ will ask you for a username for your channel. That's it - your „YouTube“ channel is ready!

Innovative learning technology through the „YouTube“ channel for the subjects

During the filming of the lesson, the teacher plays the role of "presenter". He/she introduces the new teaching content, writes down the plan, formulas and calculations on the whiteboard. Prepares the workplace and practically carries out an analysis by announcing the results.

The new learning content will be presented through a video on YouTube. Students will have access to observe the lesson by having the private link to it. The teacher will also set assignments for independent work.

Analysis of the results of the study according to the aim, objectives and criteria used

Indicators of positive learning outcomes are:

Analysis of the results of the educational process in the academic year 2019/2020

Quantitative analysis **(table 1.1)**

Study subject	Class	Average success for the academic year 2019/2020
Profession MA	10th grade	5,28
OP - OMTC	11th grade	5,19
OP - Microbiology	11th grade	5,36
UP - Environmental Protection	12th grade	5,55
EP - Environmental Control	12th grade	5,45
UP - Wastewater Treatment	12th grade	5,64

Results of the DI in theory and practice for acquiring the III degree of professional qualification **(table 1.2)**

DI for the acquisition of III level of professional qualification	Class	Average exam grade for the academic year 2019/2020
DI - Theory	12th grade	4,51
DI - Practice	12th grade	5,22

Analysis of the results of the educational process in the school year 2020/2021

Quantitative analysis **(table 1.3)**

Study subject	Class	Average success for the academic year 2019/2020
MA in the Profession	9th grade	4,58
Profession MA - PPP	9th grade	4,75
UP - Organic Chemistry	10th grade	5,50
OP - OMTC	11th grade	4,81
UP - TTPHN	11th grade	5,04
UP - Microbiology	11th grade	4,93
UP - QCCN	12th grade	5,24
UP - Environmental Protection	12th grade	5,27
Environmental Control	12th grade	5,27
PP - Wastewater Treatment Facilities	12th grade	5,00

Results of the DI in theory and practice for acquiring the III degree of professional qualification **(table 1.4)**

DI for the acquisition of III level of professional qualification	Class	Average success from the exam for the academic year 2020/2021r.
DI - Theory	12th grade	4,83
DI - Practice	12th grade	5,27

Analysis of results measuring students' basic skills and knowledge in vocational subjects shows that students taught using the „YouTube“ channel have increased scores.

Links to shared lessons in the „YouTube“ channel:

- https://www.YouTube.com/watch?v=866FhtQslZI
- https://www.YouTube.com/watch?v=muPtfAaF4Rs
- https://www.YouTube.com/watch?v=nM8nVntxIEE
- https://www.YouTube.com/watch?v=rbqlsbqlEiA

In my library on my „YouTube“ channel are attached a large number of video tutorials on vocational subjects available to all students.

CONCLUSION

In this paper, an individual case study with embedded analysis elements is used to justify one of the possible options of using and integrating digital educational technologies as an effective way to increase motivation for learning in vocational subjects. The individual case study conducted through the development of an innovative learning technology in teaching practice, and designed to enhance motivation supports the main purpose of the idea. In conclusion, it can be assumed that the use of „YouTube“ channel for sharing video tutorials creates a suitable learning environment that helps learners to increase their knowledge and develop various skills. The analysis of the collected data provides a basis to formulate the following conclusions:

1. The use of such educational technology in the learning process of the chosen discipline allows the application of specific approaches based on modern pedagogical theories and their implementation in pedagogical practice, which is due to the fact that it can be successfully used in training;

2. The use of the „YouTube“ channel in the hours of educational, laboratory practice assists in the integration of the knowledge and skills of the trainees and the formation of competencies in different areas;

3. The application of this educational technology in the training of the chosen discipline supports the learning process by creating the opportunity for in-depth and visual explanation of the theory and its application in practice by solving a larger volume of problems;

4. The development of learners' thinking and capabilities is supported by the use of digital, online technologies through their willingness to actively participate in solving different problems. The positive results of the analysis are evidenced not only by the higher achievement of the learners, but also by their positive attitude towards learning throughout the learning process;

5. The visibility and accessibility of the exposition, of the video lesson observed in „YouTube“, stimulate the interest and cognitive activity of all learners and contribute to an easier and lasting mastery of the learning content. The enrichment of the learners' learning practice provides an opportunity to increase their interest in the learning process of the vocational training subjects, which is conducive to achieving personal, educational and social confidence;

6. The full implementation of this innovative technology in pedagogical practice is hindered mainly by the difficulties that accompany the resourcing of the learning environment;

7. Different types of motivation are important for learning and need to be developed and encouraged when designing task designs. Presented and managed in a motivating way, they should take into account learners' needs, abilities and interests;

8. Motivation and attitudes towards the subject matter are interrelated and important for learning. The learning process itself may be encouraged or hindered by the learners' attitude towards the discipline itself. In general, it can be summarized that the use of such technology in vocational training classes was effectively integrated into the practice of training. Nevertheless, such a method should not be seen as an alternative, but only as a different, complementary, training-building option.

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