

FINDINGS AND RESULTS REGARDING THE APPLICATION OF INFORMATION TECHNOLOGY IN ROMANIAN PRE-UNIVERSITY EDUCATION

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Abstract: Our society is constantly changing, but the same thing is happening with technical innovations. Technology not only influences a part of our lives, but manifests itself in all its fields. The form of communications, the pace of life, the work and even the environment have undergone, thanks to this innovation, essential changes. Today there is no talk in vain of the so-called "information society", but this is considered a community whose good – information – has continuously developed. Nowadays the use of information technology brings important changes in the way we learn. Learning must go beyond the classroom and encompass complex disciplines and technologies. Therefore, in today's education it goes from training to learning, where the act of learning is placed before teaching and the student is at the center of the educational process. For specialists in physical education and sport, this trend is also reflected by the need to improve their educational process. A modern alternative is the use of information technology designed to increase the effectiveness of the teaching process.

Introduction: Education has used the opportunity offered by information technology to rethink how to deliver educational content in a way that improves student performance at no excessive cost to the system. New technologies also aim to promote the autonomy of physical education and sports professionals, who are encouraged to use the tools available to plan and monitor their educational and career paths. [1,3,4]

The continuous improvement of information and communication technologies, increased use and continuous adaptation to the requirements imposed by the development of society make these technologies an optimal environment for the transmission of information, a necessary condition but not sufficient to ensure success in the educational process.

Education must integrate and adapt its offerings to support the new generation, updating its aims and resources, so as to respond to new challenges and, at the same time, to provide education subjects with effective skills and tools.[2,4,5]

If changes in curriculum, curriculum, forms of organisation and material resources are relatively easy to implement and control, human resource modelling is a more difficult and time-consuming process (this is where mentalities, work skills, resistance to change and other factors that can hinder this approach come in).

The influence of the computer in the educational process therefore has both positive and negative aspects. Important is the role of the teacher who must intervene to make the training activity more efficient, prepare "surprise elements" in order to keep the students' attention awake and clearly emphasize the role of the computer: auxiliary teaching in teaching - learning - evaluation.[6,8]

The paper will implement/compare information technology tools that foster the construction of evidence-based practices and feedback, which is likely to increase the level of educational services by introducing a "quality circle" (design, implementation, evaluation and review of activities). Through these tools, the specialist acquires control of the entire process he manages and can intervene on each part of it to improve it and make it more accessible.

In the context of the internationalization of organizations and the globalisation of markets, the progress of digital technologies is manifested in the field of education by: documentation in a virtual library spread all over the world, training under the guidance of a teacher thousands of kilometers away, professional qualification for a global labour market, preparation for remote activities based on information and communication technologies – teleactivities, permanent enrichment of one's own culture with elements from other cultures.

The development of the information society has resulted worldwide in: the development of communications infrastructures, the implementation of appropriate software tools, the development of hardware components, the creation of digital content, the development of individual skills in the use and exploitation of information.

The phenomena of continuous increase in processing power and systematic decrease in the size and prices of computers lead to the

generalization of the use of new information technologies, thus facilitating access to information for all members of society.

There are many approaches to the application of it technology in the field of sport, in important sectors such as training and competition analysis, documentation, etc. In recent years, the use of it means in the field of sport has become a common practice, their importance being constantly increasing. Let us remember, among other things, the biomechanical analysis tools, the data banks for documentation on training and competitions, and the video techniques that play an essential role in the observation systems of team sports, combat sports and other sports. The use of IT methods and tools in sport, in addition to the training and competition sector, should also be mentioned that of information and documentation.

Meinberg believes that the development of Sports Science will be characterised by further diversification. It provides for the development of a special discipline ('applied informatics in sport') that is responsible for the production, elaboration, systematization of information, as well as the development of new information and communication techniques and the use of specific ways of developing data.

Chacay refers to the diversification trends of Sports Science, which in addition to its positive effects, the production of a larger and more precise number of knowledge thanks to specialization, presents from a systemic point of view and a negative effect, that of its insufficient integration into the global system of Sports Science.

The use of the computer in the field of physical education and sport was dependent on some of its peculiarities. Thus, the richness and diversity of information existing in physical education and contemporary sports training, the data provided by multiple investigations, tests and specific control samples, have led to changes in substance in programming and planning strategies belonging to directed motor activities - sports type.

The analysis of articles and works published so far allows us to systematize the use of information technologies in the field of physical education and sport in the following directions: sports training, sports competitions, physical culture of sanitation, sports management, regulation of the potential of professionals in the field, educational process.[1,3,7]

Studying specialized publications for physical education, Petrehuş Gh., (1979 – High School of Physical Mathematics No. 2, Cluj-Napoca) developed an educational software (program), bibliographic reference found

on page 39 of Mrs. Balint E. 'saily's doctoral thesis.' (2004). The author says that Petrehuş Gh. has created a combination of the facilities offered by the computer, with the didactic approach of specific practical activities. The research was the subject of the investigation, the development of motor quality force and combined form: force-speed, in boys in the ninth grade. The program was based on a comparative study of the values obtained by each student in the tests supported by the subjects during the school year. The main function of the program was to organize, as part of the practice, groups of pupils in correlation with their positive and negative drivers, the resulting values being shown by the graphs provided by the built-up assistance program. These charts also served to guide students toward certain branches/ sports events.

Material-method

The methods of scientific research applied in physical education and sport are also presented to us in the works of the following authors: V. Zatorski 1968, A. Nicu and collaborators, 1972, N. J. Bulgakova, 1972, B. A. Asmarin, 1978, V. N. Platoov, 1974, S. M. Vaitehovski, 1985, A. Gagea, 1999, G. Popa, 1999, M. Niculescu, 2002, M. Epuran 2005, A. Gagea, 2010. These methods present scientific arguments and objective information on the achievement of desired scientific research.

For the study we use the following methods:

- Method of specialized bibliographic study;
- Method of observation;
- Analysis of documents;
- Method of pedagogical experiment;
- Test method;
- Method of interpretation and processing of information.

Results and discussions

A concrete example of the influence of technical transformations on the conduct of the educational process is that of the impact of information and communication technologies. Now, in any educational institution, students have Internet-connected computers at their disposal. Computers can play the role of teachers, they can urge creative thinking, they can promote entrepreneurship or curiosity. However, technology alone is not a solution. First of all, we need new educational models. Thus, modern educational

concepts insist on an individualized education, practically, on teamwork, and on a guidance of information discovery. The learning style will have to be tailored individually for each student, and this cannot be done without the help of technology.

The accelerated dynamics of social change, but especially the depth of these changes, require restructuring directions and educational reality aimed at aligning the educational objectives with the concrete requirements of the super-technological society. The impact of technologies on human society originates in their stateless nature, after the emergence of technologies having a universal diffusion.

There are many approaches to the application of information technology in performance sport and less in physical education.

In this respect, we have proposed to develop a software model that includes both the theoretical and practical approach to what is happening at the level of pre-university education in the field of education Physical and Sports.[4,5]

A sensible development would be to integrate all it support into a global information system.

For example:

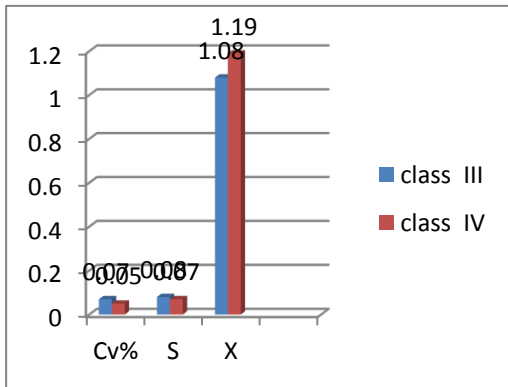
	Class 0	Class I	Class II	Class III	Class IV
Theoretical training	game practice	game practice	Awareness of physical exercises	Awareness of physical exercises	Audio-visual instructions and feedback
Practical training	By demonstration	By demonstration	By explanation, demonstration	By explanation, demonstration	By explanation, demonstration
Evaluation	Evidence and control rules	Evidence and control rules	Evidence and control rules	Evidence and control rules	Evidence and control rules

In future, this educational software will require increasing emphasis on indications for physical education and sport. In this respect, the experimental approach is ongoing.

The main objective of the experiment was to estimate the driving development of the sample, as the basis for starting the experimental experiment, both aimed at verifying in practice the assumptions of the scientific approach. The sample consisted of 20 pupils of Class III B, respectively IV-B of the Technology High School „I.V. Liteanu”, Liteni. The test samples were: a long jump on the spot, a fast run, a resistance run. The synthesis of the statistics processed at the experiment shows us that the use of information technology is a great contribution to the efficiency of the teaching process and why not, to its modernization.

SUMMARY TABLE OF DATA PROCESSED STATISTICALLY

Subjects		Sample								
		Jump in length from the spot			Speed run			Run resistance		
		X	+/-S	Cv%	X	+/-S	Cv%	X	+/-S	Cv%
40 pupils	I.T.	1,08	0,08	0,07	5,15	0,36	0,07	2,88	0,31	0,10
	F.T.	1,19	0,07	0,05	4,38	0,29	0,06	2,31	0,11	0,04
	D.	0,11	0,01	0,02	0,77	0,07	0,01	0,57	0,20	0,06



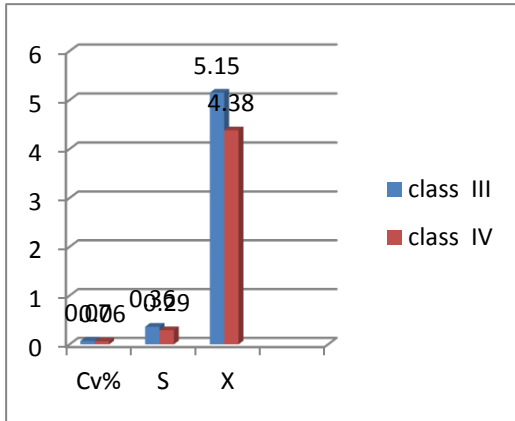
Jump in length from the spotX: has achieved a value of 1.08 in Class III and 1,19 in Class IV, a progress of 0,11 per cent is observed.

S: a value of 0,01 for the differences between the two tests, shows that the group has no

significant deviation from the mean.

Cv: the values of 0,07 and then 0,05 show a progress of 0,02 by placing the group in the category of homogeneity.

Speed run

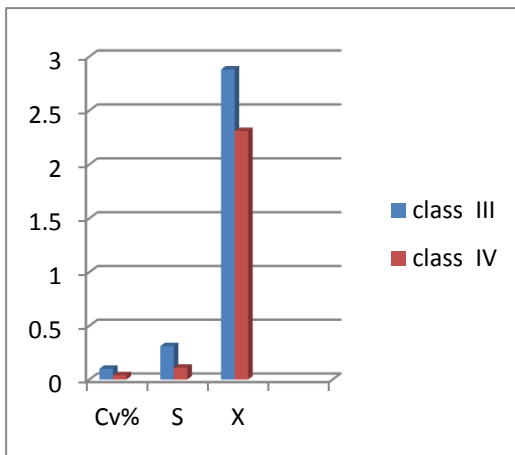


X: between the two tests an increase of 0,77 per cent is observed.

S : the value of the difference between the two tests is 0,07 per cent, a significant deviation from the mean.

Cv: 0,01 per cent progress is noted, the measured group is homogeneous.

Run resistance



X: it achieved a value of 2,88 compared to 2,31, a 0,57 per cent progress is observed.

S : the difference between the two tests is 0,20 per cent, a significant deviation from the mean.

CV: the values recorded give a 0.06 per cent progress, the group being classified as homogeneous.

Conclusions

The educational-training process is a complex process that is difficult to identify and enforce in its integrity. A differentiated contribution has both physical education (with its specific means) and other school disciplines and

educational factors such as family, school activities, social factors and, last but not least, the media.

There is a need to pay greater attention to physical education hours, both in organizational terms and in terms of ensuring that the conditions for their deployment are increasingly good.

In order to improve the quality of the teaching process, increase and render the physical education lesson more efficient, the teacher must act to solve three problem categories: materials, organization and methodical.

To deliver quality lessons, it is necessary to resolve the goals and tasks of the lessons, and this is achieved by selecting the most valuable training exercises and middies to ensure the motric density, variety and attractiveness.

The use of educational innovations combined with modern information technologies allows skills to be obtained in the training, management and exploitation of modern information resources.

The benefits of specialists using these technologies in physical education and sport lessons as teaching support are multiple: Increasing the efficiency of information exchange, optimizing the entire educational process, ensuring quality in the system.

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CONSTATĂRI ȘI REZULTATE PRIVIND APLICAREA TEHNOLOGIEI INFORMAȚIONALE ÎN ÎNVĂȚĂMÂNTUL PREUNIVERSITAR ROMÂNESC

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Abstract: Societatea noastră se afla într-o permanentă schimbare, dar același lucru se întâmplă și cu inovațiile tehnice. Tehnologia influențează nu numai o parte a vieții noastre, ci se manifestă în toate domeniile acesteia. Forma comunicațiilor, ritmul de viață, munca și chiar mediul înconjurător au suferit, datorită acestei inovații, modificări esențiale. Azi nu se vorbește în zadar despre așa numita “societate informațională”, ci aceasta e socotită o comunitate al cărei bun – informațiile – s-au dezvoltat continuu. În zilele noastre utilizarea tehnologiei informaționale aduce schimbări importante în modul de a învăța. Învățarea trebuie să treacă dincolo de sala de clasă și să înglobeze discipline și tehnologii complexe. De aceea, în învățământul de astăzi se trece de la antrenament la învățare, unde actul învățării este plasat înaintea predării, iar elevul este situat în centrul procesului de învățământ.

Pentru specialiștii în educație fizică și sport, această tendință este reflectată și de necesitatea de a-și îmbunătăți procesul instructiv-educativ. O alternativă modernă o reprezintă utilizarea tehnologiei informaționale menite să sporească eficacitatea procesului didactic.