



Club of physics teachers and rather forms of next teachers education



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Information society

A lot of information we can obtain through TV and radio broadcasting, Internet and multimedia, journals and books, everyday. Mainly there is a professional level of making information with the idea to be punchy and in time. We are on attack from the advertisement, which is full out of very impression and attractive points of view on everyday problems. We can appraise the positive role of the modern media in our life from the position of the professional level of compile of information, their factualness and topicality.

On the other hand, people start be only a simply consumer of facts, without the endeavour in their searching. They are ready for quickly decision what is good or what is bad only under the surface appearance, without the deeply recognition of the principle or attribute of the objects.

Contrast between the society and the school

Our pupils are coming to school from their home cinemas, virtual worlds, wonderful videos and animations about the nature, universe.... Our lesson was started. What can obtain this student under school conditions? The school conditions are very poor, meagre and really in contrast with the conditions in everyday life outside the school.

Teachers are in precarious situation because they are in contact with on one hand very questioning students with education interest and on the other hand they have a bad conditions, simple teaching tools, weak external motivation.

Pupils' interest in physics as a school subject goes down rapidly in Slovakia, during last years after the change in 1999. If we wish to improve students' interest in physics, our teachers must:

- ❑ be more creative, flexible,
- ❑ have information about the new educational technologies,
- ❑ used computers and Internet as a new approach in education process,
- ❑ support sever able students work.

The position of the physics teachers

The tendency of faculties training future teachers of physics is to prepare these students for practice and provide them not only with theoretical knowledge but also practical experience from real educational process. It is a matter of latest information from particular science discipline and of current trends in educational process and didactic. The unthinkable part of modern didactic preparation represents computer and Internet literacy.

The young generation of teachers is very well prepared as far as computer literacy and modern educational technologies concerns. Majority of teachers at the secondary grammar schools are in their middle ages, i.e. teachers who have not got chance to become acquainted with modern information and/or communication technologies. This group of teachers has not professional knowledge even basic skills are poor and they do not see the importance of computer technology in educational process. At our faculty preparing future teachers, we see the need in further educating of our graduates - teachers of natural science subjects.

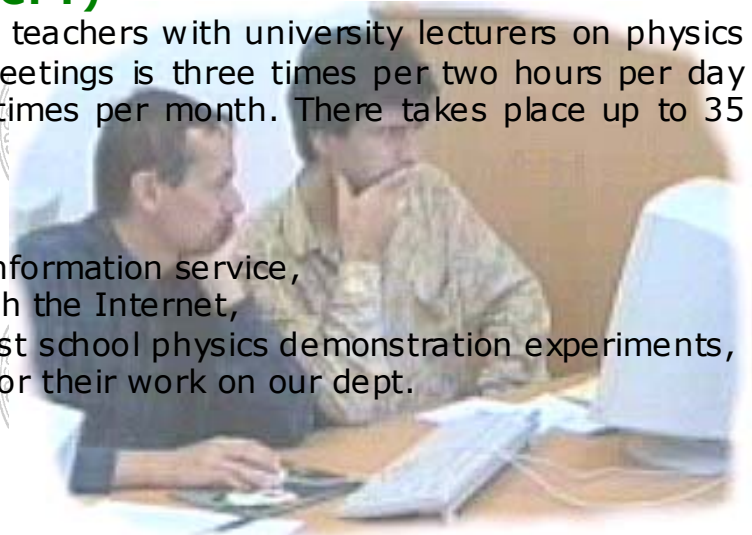
Our effort, here at the **Faculty of natural sciences of the University of P. J. Šafárik in Košice**, is to create functional model of further teacher training reacting to current needs of teachers and supporting the increase of educational level concerning natural science subjects. This idea has its roots in many years work in further teacher training. Since six years we have been organising the meetings - Club of Physics teachers at secondary grammar schools, we have established Club of information science and we are paying attention to chemistry teachers. These are one-day meetings or meetings in the afternoon hours, and usually under the active participation of teachers we are dealing with various forms of further training. Teachers show deep interest in present information from the given science disciplines, methodologies of the given subjects and they welcome our effort in connecting them with the world of modern technologies and communication technologies. They feel that they are improving from day to day and that they diminish the gap in the field of computer literacy when comparing them with their students.

If we wish to change routine educational system one way how to solve it is to give new motivation and information for the middle age teachers and help them to make it.

Club of physics teachers (CPT)

CPT are meetings of physics teachers with university lecturers on physics education section. Duration of meetings is three times per two hours per day and meeting are organised one times per month. There takes place up to 35 teachers. We prepared for them:

- Studying materials,
- Multimedia CD-ROM,
- Web site with school information service,
- Discussion club through the Internet,
- Videotapes with interest school physics demonstration experiments,
- Pleasant atmosphere for their work on our dept.



Club of physics teachers 1998

1. Transformation of practical students knowledge into education process
2. Non-traditional physics experiments
3. The modelling of the physics experiments in computer based laboratory
4. Internet and physics education
5. Using physics tasks in education
6. Modern trends in education



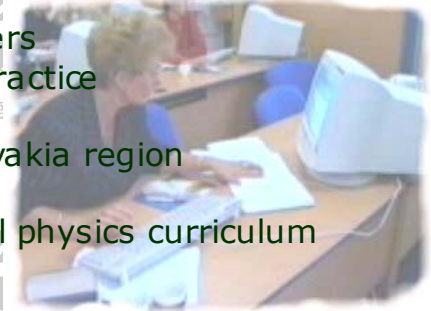
Club of physics teachers 1999

1. The innovation methods and their influence on pupils creativity
2. The presentation physics problems by multimedia
3. Ecological point of view on secondary school physics topics
4. Laboratory students works
5. The innovation methods and their influence on pupils creativity II
6. Physics in everyday life
7. School physics experiments in computer based laboratory with IP COACH
8. Black box problems in physics education



Club of physics teachers 2000

1. School information service for the physics teachers
2. The application of new educational methods in practice
3. Self recognition of physics problems
4. History of Physics research and education in Slovakia region
5. Using multimedia in physics education
6. Modern physics and they position in today school physics curriculum
7. Teachers investigations
8. Physics in everyday life



Distance course for the teachers

It shows to be very impractical travelling for example seven hours to attend a two hours seminar during the meeting of the physics teachers. The same applies to printing of studying materials, because it is expensive and sometimes out-of-dated. We were motivated by these matters to work out a project for creating distance Internet courses for the group of the teachers and next teachers- students on universities.

One of the distance courses within the IDEP project is called:

"Using multimedia in Education"

The course is aimed at three thematic topics:

- 1) **Current possibilities of multimedia, presentation of basic practical applications**
- 2) **Principles and professional-technical parameters of particular multimedia equipment**
- 3) **Methodology on how to make use of multimedia in educational process.**

Running of the course

Persons interested in course fill in application form, which is on the web page of the distance course. On the basis of selection criteria set by the guarantee of the course, the administrator selects the participants and he/she let them know the result via e-mail. Each participant will be lead by the tutor.

The participants of the distance course will be studying individually, from the prepared materials published in the information system of the course. Once in a week or twice a week (according to the time schedule) they will send processed partial projects to their tutor via e-mail, the topics of which are worked out for the whole course in advance. The tutor corrects the projects, he evaluates them (according to the point scale) and returns them back for further over-studying. At the end of the course, the participant submits his project to the tutor.

The administrator prepares for the tutor list of the participants fulfilling the conditions for granting 4 credits or certificates according to achieved points within the course. The tutor hands over the credits and certificates to the successful participants of the course.

Partial and semester projects

The participant of the course presents his knowledge and skills gained during the course through the partial projects. The particular outputs are aimed at the needs of practical teaching. Semester project is created by the file of web pages or by power point presentations, which was created and realised for special teaching unit chosen after agreement with the tutor.

I hope that we will manage to prepare and launch the distance course that will find support and which will contribute to the education quality of the subjects concerned and to the wide-spread usage of multimedia elements in the educational process.

For more detail see our web site:

<http://kekule.science.upjs.sk>

