

PROJECT WORK IN INFORMATICS LESSONS

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ABSTRACT

The best known method of integrating knowledge from different subjects is by doing cross-curricula projects. Projects carried out in the classroom involve planning, designing, realisation, presentation and evaluation of the task, which can create many links between subjects. Starting cross-curricula work can be demanding and difficult for teachers and pupils, so our proposal is to start by doing simple projects within informatics lessons. The first projects can concern one subject, and the emphasis is put on the technical aspect of using ICT tools at every stage of realisation. The next projects are done in teams of pupils, and include also elements of negotiation and dividing the work in the group. The themes of the projects are universal and are concerned with organising some aspects of school life, so are useful in different conditions. We teach the methodology of doing projects, and show the possibilities presented by using ICT.

KEYWORDS

integration of knowledge, project work, cross-curricula project, informatics lessons, creativity

INTEGRATION OF KNOWLEDGE

Our education needs new forms to help our pupils in the difficult task of preparing them for life in a very fast-changing and highly technological world. The main postulate is that our pupils should be able to integrate different forms of knowledge. Integration of knowledge is necessary to make our education system modern and much closer to pupils' life and experience. We are used to seeing the school curriculum as the set of separate subjects, but we do not actually experience the world separated into ingredients. The psychological basis of the integration of knowledge is connected with a holistic conception of human beings. Holism is a rule of understanding and description of the world as a kind of single integrity. Wholeness gives the form and the structure of the parts. We use this understanding to explain some phenomena in physics, biology and social processes.

As we look at this integrated approach in our teaching, we can identify the following models:

- “one subject model” – when we enrich teaching of the subject by incorporating some examples from other disciplines;
- “many subjects model” – when we look at one problem from different points of view defined by other subjects;
- “cross-curricula model” – when we make “a path” across subjects, looking at reasons and results of some issues, and trying to explain the connection between them by using knowledge from different subjects.

Integration of school subjects could concentrate on a scientific problem or on a real life situation. Except for the first model, which can be undertaken by the individual teacher, this approach requires considerable co-operation

between teachers. Especially in the third model, teachers have to prepare and plan carefully the steps of the path in proper sequence. However, although this method is the most demanding and complex of the three to organise, nonetheless it has been clearly shown to lead to the development of truly creative skills, as the students work collaboratively within the framework of the project.

EDUCATIONAL PROJECTS

The best known method of integrating knowledge from different subjects is project work. An educational project is a kind of the long-term task, bigger than the traditional homework, which is realised accordingly to some principles. The principles are as follows:

1. The pupils know objectives and methods of their work,
2. There are deadlines for every stage and whole task,
3. There are persons responsible for the realisation of the task,
4. The standards of evaluation of the work are known,
5. The pupils work individually or in teams,
6. The results of the work are presented in public,
7. The teacher prepares the instruction, which includes theme, objectives, methods, deadlines and standards of evaluation.

The process of planning, monitoring and evaluating pupils' work is important in the same way as the final result. The task may concern one or more subjects. Looking at the form of the presentation of the work, we can say about two different kinds of projects:

- the searching project, when pupils have to collect and systematize some information and present it in the form of interview, essay, album, report, performance, etc.
- the local activity project, when pupils decide to organise any activity in their local surroundings (in school, in neighbourhood, in village, in city).

The idea of doing educational projects is popular in many countries and schools. Many examples of such projects we can find on the Internet. We want to outline one of them, named Webquest. This is an example of the questionnaire for pupils, which acquires all the features we have mentioned earlier. The sources of information, which should be used to realise the task, are mainly websites. Looking at the increasing number of webquests from different subjects in its library, we can suppose that this method of teaching is still attracting new followers.

PROJECT "MEETINGS AND LEARNING WITH COMPUTER"

The project is a realisation of the education standards, which were launched in Poland in 1999, connected with the introduction ICT into schools. We are authors of all the materials elaborated and published as a part of this project. In Polish education system the informatics lessons are the separate activities at all education stages. In our project, the informatics lessons are called *meetings with computer* and are oriented towards preparing students for *learning with computer*. We believe that ICT should play an integrating and interdisciplinary role in schools, and we especially support ICT's role within such educational projects.

In Poland, and we think in other countries also, starting with cross-curricula project work is difficult and demanding for teachers and pupils, so we propose to start by doing simple projects within informatics lessons. Initially we put the emphasis on the technical aspects of using ICT tools at every stage of realisation of the project.

In our textbook for pupils for primary school we start with the presentation of pupils' work. After a few lessons, when the students have some files in their folders, they are asked to present them to others. They meet, for the first time, an ICT tool for presentation and explore its possibilities. The next step means preparing, in pairs, a presentation, which has its theme, and now it is necessary to follow all the stages of doing project work. In the second part of the textbook you can find many simple tasks, which are connected with the activity "organisation of an excursion for our class". Doing these tasks would really help students to use computers in the organisation of an excursion or any other extra-curricular activity. The form of presentation of the results of pupils' work is making a newspaper. They are working in teams and the results of earlier work are used.

The first part of the textbook for secondary school is connected with one project. Once again it is the organisation of an excursion to see the famous panoramic painting "Panorama Raclawicka" exhibited in Wroclaw. This is a team project, in which students are choosing tasks, planning its realisation, collecting information from different sources and finally make the report on the visit in "Panorama Raclawicka". The report is made in the form of an electronic text document with photos, tables, Internet links and so on. This project is easy to broaden into other subjects like history, geography, Polish literature, art. The second part of the textbook is dedicated to the project "Our Class". Pupils are finding the ways of presenting themselves in different ways, one of them is making the class homepage WWW. As a preparation to this project, students get familiar with some elements of HTML language by creating individual homepages.

The themes of the suggested projects are universal and are concerned with some events of school life, and so are useful in different conditions. We invite teachers to adapt these projects to their school situation, to realise them during informatics lessons and then to broaden them into other subjects.

SUMMARY

Doing cross-curricula projects using ICT tools accords well with the postulates formed by the pedagogy of multimedia education. Today, multimedia education is understood as the transmission of the knowledge by using the system of verbal, pictorial, sound and action, signs and symbols. Learning is done also through the preparation of training materials by the pupils. Making this kind of materials requires high quality in the students' knowledge and in the final results in the form of texts, websites, and pictures. In achieving satisfying results, the ICT tools are very helpful, and in the same way the informatics lessons begin to be more attractive and directly useful.

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