An Introduction to Teaching Computer Science in English

At a time when the world seems to be run by computers teaching Computer Science in English seems to be the easiest and most natural task in education. I remember my first reaction when I was offered to do that. I told my head master: "There are so many English words in my lessons! All I have to do is to remove the Bulgarian words between the English ones!" A little later it didn't seem that easy to me. Although English is the "mother tongue" of the Computer Science, the original English literature either is missing or inapplicable to the course of study in Bulgaria. It is very difficult for teachers to find appropriate English books connected with the lessons. For example there are many attempts to provide Bulgarian textbooks on Computing with the most often used English terms but that is insufficiently for the aims of studying Computer Science in English. There is another problem as well. Although very attractive, Computer Science is a completely new subject for the students. It differs from any other subject in its aims to extend the boundaries of their knowledge in general, to prepare them for living in the 21st century information society. It has much to offer in changing the way things are taught, but for our country it is just the beginning. In respect with the curriculum, Computer Science in Bulgaria is divided in two basic subjects called Informatics and Information Technologies. They are taught from 8th to 12th grade each in two or more classes per week. Both subjects are built of several modules. For example IT consists of the following modules: Introduction; Operating Systems; Word processing; Working with Graphics; Spreadsheets; DataBases; Presentations; Internet. In the Introducing Course I have some "language problems" with my students. They have to go through the idea that English is not only a study subject but also a means for studying other subjects. That is the reason to begin the course of study with easier texts about history of computers, information, etc. The text I have prepared for an example is based on the original textbook 'Oxford English for Computer Science'. I have used the text for reading comprehension. The questions and exercises are used not only to focus the students' attention on some basic terms but also to provoke their thinking and encourage communi-cation. The students are asked not just whether the answer is 'true' or 'false' but to explain and prove their choice. To put it another way, reasoning is important, and not just the correct answer. After being acquainted with some of the basic terms in Computer Science students are able to cope with more complicated tasks, such as to present a given theme to their classmates in different ways, or study some features of a software product on their own. For example, once they have gained knowledge and skills to work with the so called 'Wizards' in Microsoft Office, students can efficiently use Wizards in new sophisticated tasks, such as making a presentation with Power Point without knowing the software, or creating a report in a Data Base. In conclusion I would like to say that students who study Computer Science in English are better prepared for understanding and using computers in real life situations which reflects on the other study subjects and all their further development as well.

Introductory course in Computer Science,
Nancho Popovich Sciense and Mathematical School, Shumen, 8th grade

While reading the text try to answer the questions below. Pay attention to the words in bold typeface. Copy the unknown words to your notebooks and try to find their meaning without using a dictionary.

- What are computers designed for?
- Which are the basic parts of a computer system?
- How does it work?
- Why do we use computers?
- Can a computer think?

General Features of Computers From 'Oxford English for Computer Science', K. Boekner, P. C. Brown, Oxford, 1993

The basic job of the computers is the processing of information. For this reason computers can be defined as devices which accept information in the form of instructions called a program and characters called data, perform mathematical and/or logical op

erations on the information and then supply results of these operations. The program, or part of it, which tells the computer what to do, and the data, which provide the information needed to solve the problem, are kept into the computer's memory. Every computer system consists of a processor, two forms of memory (main and auxiliary), input units and output units. These parts represent the actual physical com- ponents of a computer system and are referred to as the hardware of the system. When a computer system is operating, the components of the system are constantly interacting with each other, often resulting in the execution of millions of instructions per second by the processor. The operating system comes to help people to manage the computers. An OS is a master control program, which controls the functions of the computer system as a whole and communicates with the user in an appropriate way. A computer can solve series of problems and make a great number of logical decisions without becoming tired or bored. It can find the solution to a problem in a fraction of the time it takes a human being to do the job. A computer can replace people in dull, routine tasks, but it has no originality; it works according to the instructions given to it and cannot exercise any value judgements. There are times when a computer seems to operate like a mechanical 'brain' but its achievements are limited by the human minds.

Exercises:

1. Decide whether the statements are true or false:
- All computers have the same basic hardware components.
- A computer can process any data even it has not received information to do so.
- A computer solves problems by doing some mathematical and logical operations, etc.

2. Match the words with the appropriate expression:

1) processor
2) processing
3) data
4) memory
5) hardware

a) a storage device
b) the physical components of a computer system
c) performs mathematical and logical operations
d) internal manipulative operations with data
e) information processed by the computer

Homework: Do you have a computer at home? Do you want to have one? How do you use it? Write an essay or make a presentation of computers in your life.

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