

ICT in the English Classroom

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„Who is there that does not always desire to see, hear, or handle something new? To whom is it not a pleasure to go to some new place daily, to converse with someone, to narrate something, or have some fresh experience? In a word, the eyes, the ears, the sense of touch, the mind itself, are, in their search for food, ever carried beyond themselves; for to an active nature nothing is so intolerable as sloth.”

*/Comenius/
(Jan Amos Komensky, 1592-1670)*

1. THE SCOPE AND AIM OF MY THESIS

Computers play an important role in the lives of most families. Most parents use them for their jobs, essays have to be written by Word, young kids play different kinds of games on these – probably the biggest – multifunctional creations of our modern era.

Many people have been arguing about whether they should let their children use the computer in the early ages. Well, if someone decides not to, he will have to face a constantly growing obstacle. Computers and their constant development are unstoppable.

In the quotation above Comenius thinks of a pedagogical system (Natural Education) in which learning does not mean the mugging up of something, but the exploration and revelation of new things by the children themselves. Learning would be much more persistent and could provide much more fun if education enabled this way of acquisition. Comenius lived his life as a teacher, a scientist, a writer and an educator. His thoughts became famous and popular, he is known as the ‘teacher of nations’, and the ‘father of modern education’. In this aspect, Comenius’s thoughts and the idea of using computers in class are extremely close to each other.

My experiences show that in recent times, language learning at schools has meant only the blind memorization of words and grammatical rules. Is it effective and long lasting in practice? If no one enjoys language learning in class, how can we expect our students to satisfy requirements and remember what we have tried to teach them?

Computers could be extremely effective not only at work, but also at learning. Everyone knows the concept of e-learning, many foreign language teachers use teaching software or interactive boards, and nowadays, we can find a huge variety of material on the internet.

In my thesis I would like to draw attention to the idea of applying computers, language teaching software and other electronic tools in language

teaching and language learning, at home and at school, too. To emphasize the practical usability of the discussed methods, I connect my topic with English teaching. I highlight the possibilities of ‘modern’ methods that are able to grab the students’ attention, and provide a great variety of ideas and tasks to employ as many sensory organs as possible during learning.

I have collected the important and relevant stages of computer history in the second chapter, and I deal with the application of computers in classroom in the following chapters. Furthermore, I introduce some projects concerning and supporting these ideas in the fourth and fifth chapters. I also analyze some English language teaching programs and their practical advantages. In the sixth chapter I present these two kinds of teaching software.

According to online surveys, digital or interactive boards are gaining more and more ground in English methodology worldwide, due to their motivating power and the ease of their use (Smith 2000). The seventh chapter discusses digital boards, their application and the ideas behind them. My thesis also contains a CD appendix with my project on it: I have prepared some English exercises for interactive board use. The CD also contains the software with which my project can be operated.

As time passes, more and more electronic tools appear, and teachers will always have to keep pace with technical development. My aim is to present the timeline, the way of the development of computers from the beginnings to nowadays, in order to see how they have got more and more respect and become part of the Hungarian educational system, concerning teaching software and other computer-operated tools as well.

2. HISTORY OF COMPUTERS

When people evaluate communication or different kinds of information nowadays, most of them associate those with informatics, Internet, etc. The permeation of letter writing took more than a thousand years, printing needed 200 years to be spread, but computers has conquered people within only a few years.

To have an easier job, people try to make something else work instead of them while they can monitor the process itself, plan or labor on the next phase. In other words: computers have performed (and still perform) the work that had previously been assigned to people – making our lives more comfortable.

Today, it would be almost impossible to find anyone among the new generation who couldn't use the internet or some software. Nowadays, the term 'computer' "refers to the electronic machine that is able to store, process and manipulate data." (Computers – definition)

A computer is a machine that can be programmed, so it is able to execute a programmed list of instructions and react, respond to new instructions that it is given. In these years, the word 'computer' is rather used to describe the desktop and laptop computers that are used by most of us (Techterms).

2.1 THE BEGINNINGS

To give a deeper insight into the history of computers, I investigate the developmental process of the greatest creations of the twentieth century.

Originally, "being a computer" meant "having a job", the word "computer" was assigned to a job title: "to perform the repetitive calculations required to compute such things as navigational tables, tide charts, and planetary positions for astronomical almanacs." It definitely was not an exciting one, since there was nothing to do but compute multiplications- it has bright side for some of us, though. Mistakes were common, of course, no one could have done better;

inventors were searching for hundreds of years to find a mechanism that can perform this task (Kopplin, 2002).

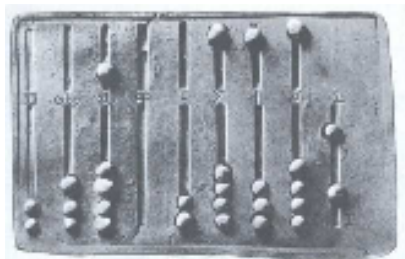


People working as computers (Kopplin, 2002)

What were the first tools for calculation?



The first evidence was an Egyptian scroll from the ancient times, called Rhind-papyrus. In 1858 a quite big papyrus scroll was bought by an antique dealer, Henry Rhind, who recognized its huge value. He found some practical mathematics on the papyrus; it contains 84 calculation exercises of everyday life, presenting the ancient calculation techniques. The estimated age of the scroll is 4000 years. (Sain 1986: 36-39)



One of the earliest aids for making certain mathematical computations easier for humans is the abacus. A practiced abacus user is able to subtract and add numbers easily, like he had a hand calculator. According to explorations, the oldest surviving abacus was used in 300 B.C. by the Babylonians. We still use abacus, as we can count with the help of the rings that slide over rods. (Kopplin 2002)

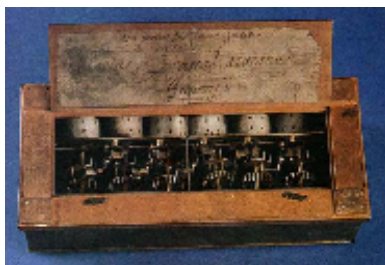
The idea of “thinking machines” was created by philosophers and theologians. Raimundus Lullus (Ramon Llull), the “doctor illuminatus”, managed to demonstrate that truth can be certified by mechanic methods as well. He published his theory in *Ars Magna* in 1276. (Sain 1986: 795)

“One method is now called the *Lullian Circle*, each of which consisted of two or more paper discs inscribed with alphabetical letters or symbols that referred to lists of attributes. The discs could be rotated individually to generate a large number of combinations of ideas. A number of terms, or symbols relating to those terms, were laid around the full circumference of the circle. They were then repeated on an inner circle which could be rotated. These combinations were said to show all possible truth about the subject of the circle.” (Ramon Llull)

Wilhelm Schickard German astronomer designed and built the first automatic calculator. His machine “could perform basic arithmetic operations on integer inputs”. (Schmidhuber)



His machine was called as “Speeding Clock or Calculating Clock” by contemporaries. “The machine

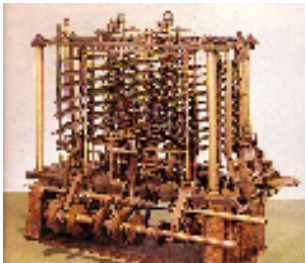


could add and subtract six-digit numbers, and indicated an overflow of this capacity by ringing a bell.” (Calculating Machine)

In 1642 Pascal – before he was nineteen – compiled a mechanical calculator, which was capable of addition. He built 50 Pascalines – or Arithmometers–, but could not sell many of them. From the outcome’s point of view it did not mean much novelty since Schickard’s machine could subtract as well. (Sain, p.796)

German Gottfried Wilhelm Leibniz (1646-1716) improved Pascal’s machine and built a calculator that could add, subtract, multiply and divide. He called the machine a stepped reckoner because, “instead of gears, it employed fluted drums having ten flutes arranged around their circumference in a stair-step fashion.” “Leibniz was the first to advocate use of the binary number system which is fundamental to the operation of modern computers”. (Kopplin, 2002)

From the 1820s in Paris, we can talk about the standardized production of such machines that dealt with multiplication as repeated addition and with division as repeated subtraction. At this time computers were still humans who computed.

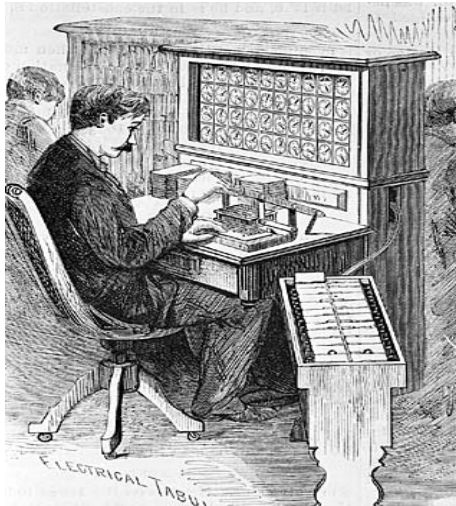


Charles Babbage (1752-1834) originated the modern analytic computer. He searched for a method by which mathematical tables could compute mechanically, and this way remove human errors. He began in 1822 with what he called the difference engine, “made to compute values of polynomial functions. It was created to calculate a series of values automatically”. It worked by steam and was as big as a steam engine. “By using the method of finite differences, it was possible to avoid the need for multiplication and division”. (Charles Babbage)

Babbage later worked on the plan of his analytic engine, but it has never been built. It could have done even more operations. It had an input device, it could store numbers to be processed, had a calculator, a control and an output device. (Kopplin, 2002)

The idea of a program stored on punch cards came from one of Babbage’s friends, Augusta Ada (Ada Lovelace, Ada Byron). “Together Charles Babbage and Ada Lovelace laid some of the early conceptual and technical groundwork for high technology by helping develop an early computer.” The technology of their era did not let them translate their ideas into practical use, but the Analytical Engine had many features of the computers of the modern times. “It could read data from a deck of punched cards, store data, and perform arithmetic operations.” (Ada Lovelace)

“The computer language, ADA, was commissioned in 1979 by the United States Department of Defense. Based on the language PASCAL, ADA is a general-purpose language designed to be readable and easily maintained.” (Ada Lovelace)

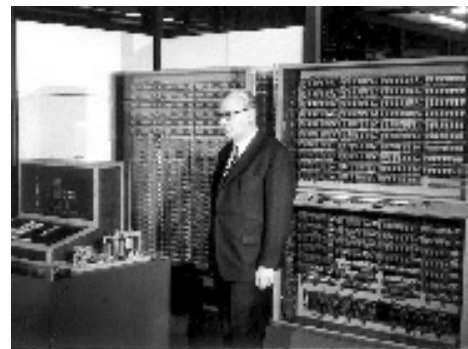


Herman Hollerith (1860-1929) is considered as the pioneer of applying punched cards. He made his machine to be an aid on the 1880 US census. He could store and process data with the help of the punched card. His machine consisted of a “card reader which sensed the holes in the cards, a gear driven mechanism which could count, and a large wall of dial indicators to

display the results of the count.” (Kopplin, 2002)

“Hollerith used the punched card as the basis for storing and processing information and he built the first punched-card tabulating and sorting machines as well as the first key punch”. He was also the founder of the company that later became IBM. Hollerith's designs affected the computing history for almost 100 years. (Herman Hollerith)

Konrad Zuse (1910-1992) a German engineer - after experimenting with Z1 and Z2 - created Z3, the world's first, full automatic, freely programmable, program controlled calculator, which used binary floating point. The photo shows Zuse in front of Z3, which was built in 1941 and rebuilt in 1961. (Bauer)



Mark I was the first programmable digital computer in the United States, built by Harvard and IBM in 1944. It was not purely electronic, as it was constructed out of switches, relays, rotating shafts, and clutches. “The machine weighed 5 tons, incorporated 500 miles of wire, was 8 feet tall and 51 feet long, and had a 50 ft rotating shaft running its length, turned by a 5 horsepower electric motor.” (Kopplin, 2002)



The Mark I was working for 15 years, it had a funny sound, as if ladies were knitting. A 50 ft rotating shaft can be seen in the bottom of the photo. “This shaft was a central power source for the entire machine. This design feature was reminiscent of the days when waterpower

was used to run a machine shop and each lathe or other tool was driven by a belt connected to a single overhead shaft which was turned by an outside waterwheel.” The Mark I could operate with numbers of 23 digits width. “It could add or subtract two of these numbers in three-tenths of a second, multiply them in four seconds, and divide them in ten seconds.” (Kopplin, 2002)

In the next phase I introduce the five generations of computers. Each generation can be characterized by certain technological development that changed the way computers had been operated.

2.2 GENERATIONS OF COMPUTERS

The first generation (1940-1956)

The first computers used “vacuum tubes for circuitry and magnetic drums for memory”. Like Marc I, they were huge machines, and were expensive to operate. We can consider ENIAC to be the World's first electronic calculator. This era began in 1946 when people – according to the majority – started to build stored program computers. The first was the EDSAC in 1949. The period ended in 1958 when transistors and the general adoption of ferrite core memories were introduced. “There were four competing technologies to provide computer memory: electrostatic storage tubes, acoustic delay lines (mercury or nickel),

magnetic drums (and disks), and magnetic core storage.” (The first generation computers, 2006)

The second generation (1956-1963)

Second generation computers were originally developed for atomic energy industry. Vacuum tubes were replaced by transistors within a few years, giving place for second generation computers. Until the 50s transistors were not so popular, but they had the advantage to make computers much smaller, faster, cheaper, and more energy – efficient. These machines still used punched cards, but they moved from binary language to symbolism with which instructing with words became possible. “High-level programming languages were also developed at this time, such as early versions of COBOL and FORTRAN. These were also the first computers that stored their instructions in their memory, which moved from a magnetic drum to magnetic core technology.” (The five generations of computers, 2008)

The third Generation (1964-1971)

The hallmark of the third generation computers is the integrated circuit. As transistors were developed and miniaturized, they began to be placed on silicon chips, ‘semiconductors’, which enabled computers to have higher speed and efficiency.

Another great leap forward is that instead of punched cards people could interact through keyboard and monitor. The computers already worked with operation systems by which they were able to run more applications at a time. It became possible for the first time to a mass audience to use computers since they were much smaller and cheaper than their ancestors. (The five generations of computers, 2008)

Fourth Generation – (from 1971 to the present): Microprocessors

Microprocessors emerged in the early 70s, were used for electronic calculators. They used binary-coded decimal arithmetic on 4-bit words.

“Microprocessors incorporate most or all of the functions of a central processing unit on a single integrated circuit” (Microprocessors). With the integration of this application, the fourth generation of computers was introduced, as thousands of integrated circuits were built onto a single silicon chip. For example the “Intel 4004 chip, developed in 1971, located all the components of the computer – from the central processing unit and memory to input/output controls – on a single chip”. (The five generations of computers, 2008)

Logo language was introduced in 1971 and C and C++ languages appeared during this period as well. The first computer for home use was built by IBM and was introduced in 1981. Microprocessors began to be used not only in computers, but in many other areas of life as well.

The development was only a few steps away from forming networks. The small computers became more powerful, more responsible. They were linked together and networks were formed, which led to the development of the Internet.

We live in the era of the fifth generation, the time of artificial intelligence. Development is unstoppable. “The goal of fifth-generation computing is to develop devices that respond to natural language input and are capable of learning and self-organization.” (The five generations of computers, 2008)

Computers have broken out of their usual territory and conquered the different areas of human thinking; they have become an indispensable tool in our lives. The control over the spaceships and the nuclear power stations would be impossible without them.

New paths have opened in education as well, since computers have found their places in the classroom, not only in informatics lessons. Knowing and using computer software have to be a skill of the highbrow, but there is hardly anyone at these times who could not use computers, or at least search the Internet.

Computers have become a useful part of education – not only part of informatics lessons, but those of others as well. They will not fully replace teachers, since they are not able to think, cannot make decisions, but it may be just a question of time.

3. THE HUNGARIAN SITUATION OF THE '90S

My English “learning” in school was very traditional, something like “learning without all the extras”, using only the course books and the tape recorder, nothing else. In methodology lessons we have been taught to use English all the time in class, but this idea is quite far from reality as I have experienced in other institutions. I liked my secondary school English teacher, although she did not have the possibility to involve other techniques into the classroom. We did not play many games, we just had to memorize vocabulary items and grammatical rules in the traditional way. I did not even hear much English during the lessons; we were instructed mostly in Hungarian – at least we understood what our teacher told us, more or less. As Lee and many others have rightly pointed out, language is learnt by using it, using it in situations, in a communicative way. (Lee 1979: 1)

Andrew Wright states that effort is needed at every moment and must be maintained over a long period of time. (Wright 1992: 6)

Of course, in case of younger students or beginner classes, some language games are sometimes applied at most schools but not everywhere. Games should not be the privilege only of younger kids; games should be used at every age.

Some teachers just rely on the course book and do nothing else – it can have several reasons; for example he/she is tired of preparing for the lessons, as preparation does not make any sense since the students usually do not pay any attention. Unfortunately I have already met such classes where students used English lessons mostly to study for other classes, or to have a late breakfast. It is not only the teacher’s fault; there are cases where the bad grades cannot help regulating. The students in these cases are usually not motivated enough, they do not really care about English as a subject, perhaps because they assume that they are not going to use this language in the future.

Such reluctant teachers often close their eyes and ears and start teaching just to finish with the course book by the end of the year. It is a hard situation for the teacher, but he/she should try to find the common voice with the students,

and find ways to motivate them. Integration of more games or some new techniques could be efficient in these cases and could activate the students.

During nursery school I had a private teacher of English. She came to the nursery in the afternoons, picked me up and took me for a walk to a nearby park. We sang English songs, examined the colors of the leaves and played a lot. We had a great time together during which I could listen to English; I learned new words – as early as the age of 5. In my opinion, it could be a good and useful way of starting English learning, even in kindergarten. It is crucial that teachers should approach teaching material and their ‘students’ from the most interesting aspects – relevant and appropriate for their age.

Meanwhile computers have been spread all over the world, they have turned up in different institutions, their operation is taught in school. Some teachers have started thinking about involving computers not only in informatics classes, but in others as well, and employ them together with the students. Of course, computers can never replace teachers, but in the case of appropriate usage, they can serve as partners in teaching.

Unfortunately, most schools still cannot afford to buy suitable computers for this above mentioned purpose. Moreover, in many institutions a number of students have to share an equipment during informatics lessons, which would not satisfy the criteria of using audio software in other classes as well. Furthermore, most of those teachers who graduated earlier think that there is no need to develop the old, traditional educational system. It works of course, but we could make our classes much more colorful and enjoyable if we had the possibility of using multimedia programs as aids during the lessons.

Unfortunately, many of the students learn languages just because they have to, and not for their own pleasure. Language certificates are needed for graduation – obviously, that is the main reason of language learning among university or college students.

It is often noted that you are worth as much as the number of languages you speak. Speaking languages is essential in these days, and it is especially true to English. Soon, it is going to be indispensable to get a job. Secondary schools

are going to teach English as a compulsory language, so, theoretically, everyone will have spoken English – at medium level at least – by the time they leave high school.

Nowadays, the life of universities does not really let students learn languages while they are doing the duties of their major(s) – this is what university students say about language learning.

To get a degree, one has to show up 2 language certificates at least. Few students grab the opportunity during high school, but most of them are not so hard-working. That is why they should learn more during the following years, but it is even harder than it was at secondary school. Although universities provide language courses, they are not enough to make students prepared for a language exam. Another possibility is when someone gets certificates during high school, but never uses those languages afterwards. In this way the person gets a degree, but the knowledge remaining behind the language certificates is not too much.

It is much harder and much more difficult to motivate college or university students for language learning. While it is easy for a kid multimedia program to be motivating, software for older students has much harder job. In my opinion, after a certain age we especially learn for pleasure. If we have to learn something, for example we are having an exam, we learn the material, but if we are not interested in the topic, it is going to be forgotten soon.

4 ... AND COMPUTERS BROKE INTO CLASSROOMS...

By this time computers have become an important part of our lives. In the 50s they meant only a kind of technical curiosity and were not accepted as widely used tools in practical life. Computers have established themselves as an important feature of modern life.

The times mentioned above changed in the 70s when personal computers appeared, and later, they managed to break into the field of education. In the 1980s, some educationalists wondered whether computers in education might prove to be a mere fashion, but they were wrong. Computers have arrived at schools, and are being used in a great variety of ways for teaching and for educational management. (Ahmad, 1991)

The versatility of the microcomputer is best seen when it is used as a tool. One of the main characteristic of applying computers in the classroom is that it provides the possibility of employing new methods in the process of teaching and learning, and it can be adapted to the demands of the students. (Barrett and Scanlon 1991: 42)

At first, the majority of teachers were averse to use these miracles; they were afraid of making their work unnecessary. By the 80s they understood that computers cannot replace teachers and their work, rather, they complete all those and make them even more effective. We could hardly find a child who would not like playing with computer games. I am sure that most of them make benefit of them. If using computers or playing with them means fun, then it can also make learning easier for them.

4.1 CALL- COMPUTER ASSISTED LANGUAGE LEARNING

There are many people who state that computers – as I wrote above – have a dehumanizing influence on our lives, on the other hand they became indispensable in almost every area – in education as well. By 1990 computers

had established themselves in language schools throughout the world. (Jones and Fortescue 1991:1)

Each language teacher has been building his/her strategies for many years, consequently, it is always hard for them to get used to new aids, tools and new methods.

Computer Assisted Language Learning (CALL) is the most recent aid to language learning. This term is used by teachers and students to describe the use of computers in language teaching classrooms.

CALL needs teachers who:

1. can switch a computer system on;
2. are familiar with computer keyboard;
3. can load a program into the computer;
4. can start the program working.

Since almost everyone knows how to use a computer at least on a basic level, these requirements should not mean a huge challenge for any of the teachers. Computer science is taught during high school and in college or university regardless of the field of study in Hungary.

4.2 GUIDELINES TO FOLLOW WHEN USING COMPUTERS:

These general rules have been collected by Hardistry and Windeatt (1994) to help the work with computers.

1. The software is more important than the hardware. The point for the type of computer is to be able to run a variety of useful software.
2. Get to know the software. It can take longer to get to know a piece of CALL software well than it can a textbook, but it is worth spending the time. The teacher has to work his/her way through it, rather than just skimming through it.
3. Software varies in its complexity.

4. “Any teacher who can be replaced by a computer should be!” As I stated above computers are not always good for teaching by themselves, and the software will not run our lessons for us. I will write more about it later.
5. Teachers should cooperate with the students; they may well know more than we do about computers, so we can exchange our knowledge about language and teaching for their experience of using the equipment.
6. Teachers should not panic. If something goes wrong, there usually will be a simple solution. (Hardistry and Windeatt 1994: 10-11)

Computers are not very good for teaching by themselves; their effectiveness will depend on the way the teachers and the students use them. Computers are different from other media in two respects – as Hardistry and Windeatt (1994) have collected them:

1. They can allow the user to carry out tasks which are impossible in other media, for example providing feedback on exercises
2. They can allow users to carry out tasks much more conveniently than in other media; for example editing a piece of writing by deleting, moving and inserting text.

Students can work on their own through some exercises and have them marked automatically by the computer (multiple choice and total-deletion). They can also carry out exploratory work which is not assessed by the computer, but which allows them to see the results of their decisions (word-processing, spreadsheet and stimulation programs). Students will usually gain more from these activities, if they have the opportunity to discuss the work they have done on the computer with the teacher. (Hardistry and Windeatt 1994: 10)

4.3 SOME ACRONYMS INDICATING THE WORK WITH COMPUTERS

Computers have decreased in price, became smaller in size, more powerful, more adaptable and more flexible than they were before. More and more people can afford to buy one and employ it, similarly to schools.

The computer is a tool, it has no inborn wisdom and no inherent ability to teach and learn, it just follows the instructions we give. Its role in education is that of a medium, a kind of servant. It is dependent on the teacher, needs human direction to produce educational material.

Some acronyms indicating the work with computers in classrooms: CAI stands for 'Computer-Assisted (or Aided) Instruction, which is commonly used especially in the United States. The words assisted and aided indicate that the computers have a subservient role; they are just tools the teacher can use. Similar acronyms are the CAL (Computer-Assisted Learning), CBI (Computer-Based Instruction), CDI (Computer-Directed Instruction), CMI (Computer-Managed Instruction), and of course the parallel CBL, CDL, CML. CBI or CBL and CMI or CML assign a more controlling role to the computer, it makes decisions about the shape and structure of the material to be presented to the students. It checks the students' answers as well. Nevertheless, it is the teacher who puts the instructions and decisions into the computers; without it, computers would be powerless. (Ahmad 1991: 2-3)

My aim is to overwrite negative stereotypes by presenting the advantages and disadvantages of computers when used in classrooms as a language teaching aid.

4.4 THE ADVANTAGES OF COMPUTERS IN LANGUAGE LEARNING

As Ahmad, Corbett, Rogers and Sussex (1991) claimed, we can distinguish three main categories within the advantages of the computer: advantages which are part of their inherent nature, advantages which benefit the teacher and

advantages which benefit the students. First, observe the benefits of the first group:

- it can handle a much wider range of activities
- it offers interactive learning (two-way learning session)
- it can assess the students' response
- it can display messages which help the students and the teachers as well
- its answers are practically instantaneous
- it is accurate, precise
- it does not tire and its attention does not falter
- it can repeat an activity with no errors
- it can handle a very large volume of interaction
- it is flexible in many kinds of ways
- it can accommodate different speeds of learning
- computers are powerful motivating sources, the material is usually better learnt and learnt more quickly

From the teachers' point of view:

- it is versatile in handling different kinds of material
 - o one way presentation of information: text, graphics, audio, video
 - o question-answer routines
 - o simulated dialogues
 - o hypothesis testing
- it can choose questions in sequence or at random
- it can record the students' results, errors, success rates the time spent
- a computer exercise can be easily modified

From the students' point of view:

- since learning on computers is flexible, it allows the student to choose when to study certain topics and how much time to spend on them
- It also allows students to take courses at a distance.
- It can be made sensitive to the learner's pace, pattern of responses and can adjust the linguistic material to the needs of the individual.

- it gives students full attention, each of their response receives a reply immediately
- it gives students novelty, diversity, sophistication and a little feeling of competition, highly motivates students

(Ahmad 1991: 4-6)

4.5 THE DISADVANTAGES OF COMPUTERS IN LANGUAGE LEARNING

When a school chooses the option of integrating CALL in its language teaching system they will have to deal with educational costs. Payment is compulsory, expensive hardware and software also becomes the big obligations for schools and parents.

It is also necessary to have basic technology knowledge before they apply computer technology to assist second language teaching and learning. Unfortunately, teachers who graduated a long ago, still have not had sufficient technological training to guide their students.

The software of computer assisted language learning programs is still under improvement. Computer technology usually deals only with reading, listening, and writing skills, and we can hardly find any programs dealing with speaking. Effective software should be able to diagnose students' problems with pronunciation, syntax, or usage and then intelligently decide among a range of options.

Computers still cannot handle unexpected situations, the learners' unexpected problems. Since they do not have enough intelligence, they cannot answer most of the questions – unless the answers for all the possible questions are stored which is quite impossible. (Lai and Kritsonis, 2006)

4.6 THE ROLE OF THE TEACHERS:

As a new tool has taken its position in the classroom, the old system has had to be modified; the roles in the classroom have changed, so have the teachers' role. Computers do not replace human teachers; they don't become

passive parts of the language lessons. When computers are applied, teachers become designers, suppliers, facilitators. They have to make class plans, check exercises to be familiar with those, know the texts, lyrics of the songs they listen to during classes. It is also necessary to have a proper knowledge of computer operation. Students need guidance to work on the assigned parts and to prevent other temptations due to the internet. At the same time students have to be self-sufficient, they have to be given freedom to work on their own. This is the way they can improve their skills and knowledge the best. Teachers are just observers, but when they go around and around the classroom, they can realize personal problems easily and they can work out the best solution.

5. MMM PROJECT

Another issue related to language learning, the MMM (Mini-web, Multilingualism, Maxi learning) project is also worth investigation. I will discuss it shortly before I start analyzing teaching software and the digital board.

A magnificent idea was born in 2002: the creation and operation of a vocational developing workshop in order to support those Hungarian teaching institutions where the best experience of applying information and communication techniques can be gained. Members can monitor and get access into each others' work, they exchange information. Furthermore, this workshop joined international projects as well. MMM project represents a revolutionary strategy of learning. Students and teachers communicate with others in different countries by e-mail while they can acquire the many new things from other cultures. This project supports language learning as well since they keep contact with other students and teachers in different countries (Gyermekinformatika). I can imagine an English lesson every month when a class spends an hour with chatting with another class for example from England with the help of a web camera.

One of the best kinds of motivation for language learning is the communication with other cultures. If our students realize that they can talk to foreign students easily they understand them as well, language learning during the lessons would be much successful. A foreign language can be learned the best in native area. If we give the chance to our students to get into contact with native people, they can acquire expressions, words and word orders nonconsciously and will be more successful in that particular language.

If we do not have the possibility of creating contact with other countries, we can try different kinds of software made by native people.

We can hear about more and more kids whose hobby is playing with computer games. Well, on one hand it is good, since the knowledge of computer science is one of the most important knowledge, but on the other hand, most of the computer games is aggressive and takes time from doing sports or being in fresh air. If someone likes playing with computer games, he/she will learn English better with English Teaching software.

6. LANGUAGE TEACHING SOFTWARE

I find language teaching software enjoyable and colourful; it can be characterized as game-like learning. Later in this section I will analyze two kinds of software; which are complete programs for younger and older students for home use and for school lessons.

6.1 EVALUATION OF LANGUAGE TEACHING SOFTWARE

In the following section I collect the aspects of evaluating teaching software. Language teaching software used in school programs have to meet certain requirements, such as professional accuracy. Interactive teaching and interactive learning are built upon constant communication and cooperation. The roles switch; learners become more active, while teachers become more passive during the lessons. (Forgó; 2001)

- Clarity and accuracy of messages: The aim of messages is to address the audience. It has to be short, brief, and in most of the cases, dialogic-although there can be monologic messages as well. The point is to correspond with the target users.
- Thinking within the system: The program has to be able to question the previously learnt material. It has to accommodate to personal requirements, it's quite hard though.
- Ways of presentation: Materials have to be presented in the best ways (pictures, graphics, texts, sounds, animation, simulation, tests, exercises, etc.). Products have to approach each topic from the point of view of the target users.
- Organization: Organization has to be recognizable, concerning certain effects, pictures, greetings, menu, sub points, etc. as well. The program has to contain adequate help and exit possibilities.

- Navigation: Products should be easily handled, the forwards, backwards possibilities and hypertexts have to be obvious.
- Communication and interaction: Tools and signs for communication or interaction have to take place within the program, such as menus, icons, windows, pointers.
- Pedagogical aspects: Products have to present something new, something interesting to the students – they have to process topics from the users’ point of view in a new way. Concerning didactics, it is the program’s responsibility to offer new material, new exercises, so students just have to go section by section and learn from the evaluations the program provides them. This way learning without a teacher / learning at home becomes possible.
- Psychological aspects: TAR cycle: teach, assess, and respond. Teach the particular material, assess how students understand the new information, and give feedback, response.
- Multimedia: - Media-channels: information transferred by computers can never satisfy the perception with all our 5 sensory organs. Programs have to follow the tendency of teaching with the involution of as many senses as possible.
 - Technical design: Creators have to find the best sources, the best ways of processing and the best way to visualize information. They have to work with sounds and images beyond reproach.
- Packing: Packing (cover design, installation, description, etc.) has to be suitable for the users’ requirements. It is a good point if a printed instruction sheet is added to the package.

(Forgó, 2001)

Forgó’s evaluation system is added to the Appendix section (10th chapter) of my paper.

In the following sections I analyze two different kinds of language teaching software, one for beginners and for younger kids, and one for advanced, older

learners. On the basis of my experience in using them I find both software highly effective. They give students much more than a simple course book could ever give.

6.2 CREATORS

The growth of multimedia market reached and affected the Hungarian situation as well. Domestic companies had to keep up with these new waves of 'evolution'. Profi-Media Ltd was established in 1995 when multimedia market started to grow intensively in Hungary. (Profi-media)

This institution is a (more than) good example of the topic of this section: they create and produce educational software for classroom teaching as well as self studying. Manó Angol, with much other Manó software, belongs to this company.

6.3 MANÓ ANGOL

This game-like program is offered especially to those primary school students who have been learning English for at least a year, so that they know many basic expressions and a little grammar.

Manó Angol series have great popularity among younger students due to its tale-like construction and fun activities which require creativity as well. Children enjoy playing games, listen to songs, doing crosswords and getting more and more points. If all these go together with learning words and practising grammar, the knowledge, the newly learned items will be stored in their memories much more deeply.

Fortunately there are many teachers who are open to try new inventions. Some of them have already tried different English teaching multimedia programs – especially Manó Angol 1-2 – and they were totally satisfied with the outcome. These surveys show that new words are memorized much easier with the help of involving more areas of their cognitive skills at the same time. So, if the students

can see the form and usage of the word and listen to the pronunciation, moreover, they can see a picture of it or they can place it in a story, memorization will be the natural consequence of all these.

Another good characteristic of these multimedia programs is that they can be used as ‘home teachers’ as they do monitoring all the time. If someone makes a mistake, he/she cannot go forward until the correct answer is given. There are different sounds, effects for signing whether the students’ answer is correct or not.

This software – regarding every aspect – was created for children. Little elves take us through the activities which are lined up in a way to make a story.

As I have mentioned above we can motivate kids for language learning by creating software which they enjoy to use; involving good stories, games, competitive situation, challenge. From this aspect, motivating kids is much easier than the motivation of older students. In my opinion, the secret of language learning – it is true especially to pronunciation –, is to start it as early as possible and listen to as many sources of input as we can, in their original context. Of course, we can start language learning much later as well. In this case, instead of our latent language structure, our general knowledge on earlier acquired languages will help us to pick up the new language items.

Manó Angol 1 consists of 15 topics, 75 dialogues, 375 exercises, 251 animation and 15 songs. The program contains a dictionary section of 500 words. I analyze the most important parts of the software on the basis of Borsodiné’s article (1996):

6.3.1 STORIES, DIALOGUES

Using Manó Angol 1, we are guided through 15 topics where the little elves teach us with the help of their funny dialogues – this ensures that the users are being kept motivated all the time. Native speaker children have borrowed their voices to the elves and they speak clear and understandable English. Following the usually 15 sentences long dialogues, students can easily find out

the meaning of expressions themselves. Language structures are taught too, since these structures are repeated in the dialogues, therefore those can be acquired unconsciously.

One method of learning is listening to the story several times till one gets the full understanding. Another way is listening to the story and concentrate on the pictures, so that they can see what they hear. If the students miss something, they can stop the story and start it again. If they do not understand what an elf is saying, students can open the textbook and read the story; it is almost like watching an English movie with English subtitles.

Songs are also colorful parts of the program. Each song is associated with pictures or animated pictures and is about the particular topic of their section. (Borsodiné, 1996)

6.3.2 RECORDING

With the help of a microphone students can improve their speaking skills as well. They can choose an elf and take his/her role. They can read the text and read their lines, but the next step is to memorize their parts. After recording they can listen to it and hear themselves, this way they can compare their pronunciation and the native pronunciation. This is a feature with which few other language teaching software is supplied.

6.3.3 EXERCISES

After listening the stories and dialogues, students can practice and test their new knowledge by doing the exercises. These exercises are specifically built upon the new words, expressions and structures. Each story is followed by 5 exercises, which means that a topic section includes 25 exercises. The program immediately checks the answers and provides evaluation. The program uses 2 kinds of sound effects, one for the correct and one for the wrong solution. If the students do an exercise correctly, a pearl is given. The more pearls they have, the

higher score they get. The scores are stored in the score-list which is accessible all the time.

When they have finished and done all the exercises, students get a printable degree. (Borsodiné, 1996)

I find Manó Angol one of the best teaching software. Fortunately I was among those who could try this program soon after its publication. I spent long hours working with it, and I could never get tired of it. Its target users are students between 8 and 14, but I could offer it to the students of almost every age.

6.4 CLIPDIC

ClipDic is different from Manó Angol in many aspects, as it was designed for more advanced learners. The software contains video clips of British news, where real people are talking about real issues. The main aim of the program is to improve students' listening skills. (ClipDic)

"Welcome to ClipDic, the multimedia clipture dictionary, that helps you understand the news" – we can hear the greeting when start using the program. After choosing one from the clips, we can watch a few minutes long news, just like we were sitting in front of the television. The clips are about real, everyday situations, and bring us real English, unlike what we usually meet in school.

The clips are in thematic order and chosen from various sources:

6.4.1 CLIPS

In order to certify the variegation of supply, I introduce the topics:

- Peace processes
 - Northern Ireland
 - Palestine and Israel

- Peru and Ecuador
- Angola and the Unita Rebels
- Culture
 - Secrets of Egyptian Desert
 - Rebuilding Churches from Public Donation in Moscow
 - Batman is Back
 - Wrapping the Reichstag
- Traffic and Transport
 - The Channel Tunnel
 - For Speed Enthusiasts
 - An American (Astronaut) in Baykonour
 - The Future of Electric Cars
- Protection of Animals
 - Dancing Bears
 - Chimpanzee Sanctuary in Burundi
 - Who is Whaling in the Antarctic?
 - Calf Exports



Further topics:

- Disasters
 - Bus Accident in France
 - Earthquake in Greece
 - Seoul Department Store Collapsed
 - Forest Fire
 - Landslide in Malaysia
- Crime and Punishment
 - Drog Cartel Leader Arrested
 - The Europol
 - Children in the Lake
 - O. J. Simpson Trial
- Science
 - The First A-bomb Test
 - The Issue of Buttered Toast
 - The Electronic Nose
- Health
 - New AIDS Initiative in Bombay
 - Children Euthanasia
 - Englishmen Are Too Fat
 - Men, Take Care of Yourselves!

There is the possibility of listening to the clips sentence by sentence, or even word by word. The best way of acquiring new expressions is to learn the words in their native context.

As it can be seen, we are offered a wide range of clips, from all over the world, 4-5 to each topic. ClipDic provides a complex language teaching package; a whole grammar book with lots of exercises.

By choosing a clip and clicking on the 'Test' button, a tray of exercises shows up where we can take our choice from seven kinds of activities: quiz, setting the right order, puzzle, prepositions, completing the sentences, dictation, and making sentences.

6.4.2 LEARNING STRATEGY

How can we get the greatest benefit of this program?

Students listen to the clips without any help; they cannot look at the Hungarian or English texts, they have to rely on what they hear. They can listen to it as many times as necessary.

When they understand the main issue, they can start doing the exercises; Quiz should be done first. Following this strategy, the next step is the dictation, followed by the exercises of sentence order, sentence building and prepositions. If the exercises are done, students have to collect the unknown words by opening the 'Tallózás' window, set the 3 options to Word→Sentence, Current, and Alphabetical. The program lists the words of the certain clip in alphabetical order. Learners choose the unknown ones, and hit the Alt+D buttons, putting the chosen word on the 'collected words list'. Puzzle exercises help memorizing these 'new' words in the following way: a picture is covered by several rectangles. To remove them, the program asks for the translations of the words. If someone prefers learning from papers to watching the screen, printing out these dictionary pages is possible by hitting the 'Print' button.

(ClipDic)

For the first watch, it is a real challenge to understand the news, but as we listen to it for the second and then the third time and doing the exercises one by one, we possess expressions which are proved to be useful in every situation. Listening to the chat of two people about everyday issues and listening to the news are two different things. Chatting is possible with only a few words, but the language of news is highly sophisticated.

After the presentation of language teaching software, I continue with the latest tool of modern classrooms, the digital board.

7. THE DIGITAL/INTERACTIVE BOARD

Our life, including school systems, has gone through certain changes these decades. By the availability of technical inventions, internet is accessible for students at home as well; therefore, new methods are needed to grab the students' attention in class.

Tools used for presentation are gaining increasing popularity among educators. The interactive whiteboard is a device that is able to combine “traditional” and “electronic” features of teaching aids. The necessary equipment consists of a computer, a projector, and this interactive whiteboard. We can choose from various kinds of software to build our lessons the best way. The interactive board helps energizing presentations, and it is the best tool nowadays to motivate students.

SMART interactive boards were the first to be introduced in 1991 worldwide. Hungary is still lagging behind in this aspect; however, these days more and more teachers start learning to use it in the classroom. (Smart interactive white boards)

7.1 The application of interactive whiteboards

How can we use an interactive whiteboard? I have collected the main possibilities of applying digital boards in class below on the basis of Bedő and Schlotter's book on interactive boards:

- Whiteboards as traditional boards:
 - We can use our handwriting as input
 - Any kind of colour is accessible
 - Printed texts can be presented
 - Colored printed texts as well
 - Notes, drafts can be made
 - Pictures can be placed and edited

- Boards as presentation tools:
 - Pictures, photos used for motivation
 - Pictures, photos used for presentation
 - Prepared links attached to the actual material
 - Prepared videos to be watched in connection with the actual material
 - Explanation written to certain animations
- The possibility of copying boards:
 - Any modification on the board can be saved and stored on the computer
 - Exercises covered in class, or the whole material can be multiplied by saving it on the computer
 - Materials can be mobilized by saving them in different formats, so that students can take them home or they can be published on the internet
- Boards as interactive tools:
 - Different objects, pictures, drawings, texts can be presented, moved and resized
 - Classification is possible from any angle
 - Every operation can be undone, this way the board is suitable for brainstorming as well
 - Exercises can be checked quickly with the preparation of solutions (Bedő and Schlotter 2008: 45-46)

7.2 My Project

I consider it important that teachers at every stage of their practice remain open to new challenges and try new possibilities in every field of their profession. I believe that it is necessary to complement the coursebook material with the use of other kinds of teaching aids. If the accomplishments of technical

sciences are present in our everyday lives, they should be employed in classroom as well.

Fortunately, there are many teachers in Hungary who have learnt how to use digital boards and apply them in English classes. All that has to be done is to connect the board and the projector with the computer. After siting the board, teachers start working and open the software.

I used SMART board the software called Notebook 10. The user surface is similar to that of the power point, it is easy to learn and explore. The icons explain themselves, but when something is not understandable, the internet-connected 'help' tells us everything.

Notebook 10 software is designed for classroom teaching, that is why several pictures and animations are stored in its gallery collected by subjects. There are many colorful ideas and funny elements among its possibilities in the English part as well: backgrounds, animations (e.g. dice with the pronunciation of the English numbers), pictures with their English names, etc. We can choose from more thousand elements.

It is easy to understand the buttons and icons, the main idea of the system is similar to that of the Power Point surface – or even easier. This software knows more though, since it has more possibilities, like the 'curtain' function, different creative and magic pens, shape-recognizer pens.

7.2.1 Created exercises

Without a concrete plan on my mind, I just started to try out the different possibilities of the program. After a few minutes I realized that I was done with the first exercise. Using the software was like a game, enjoyable and easy. Since we were dealing with natural disasters at my final teaching in Kossuth Lajos Secondary School, I continued processing this topic.

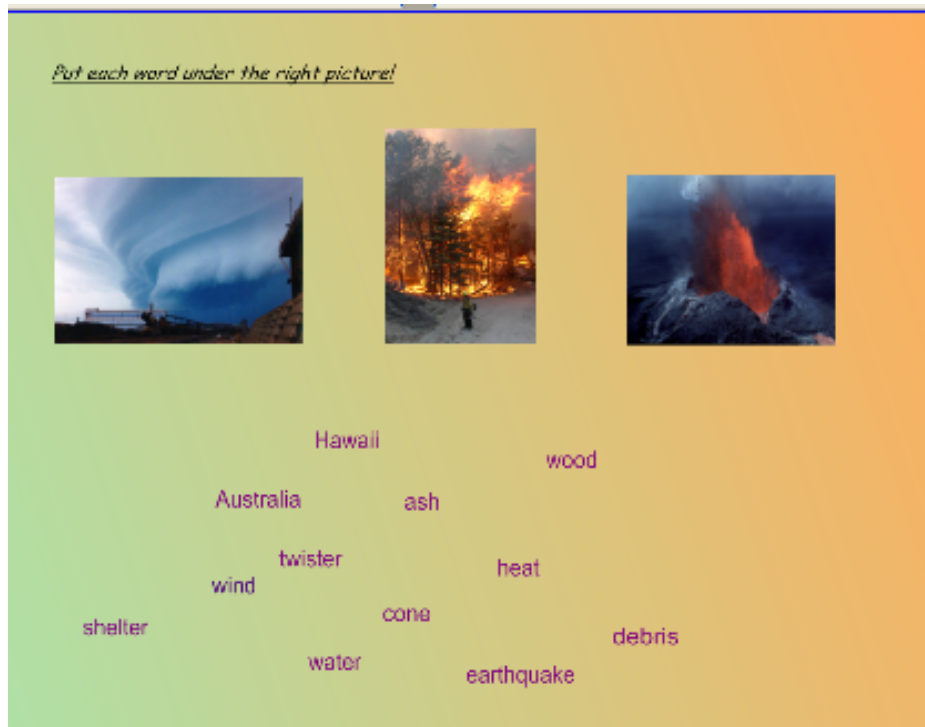


1. a

Picture 1.a shows the first page of my project. The letters are mixed up, students have to put them in the right order. They can check their solution by erasing the trace of the “creative” pen. If they draw up the curtain and click on the little image, the picture grows and shows the meaning of the word students got from the letters. Picture 1.b is taken of the same page after finding the right word and clicking on the image behind the curtain:



1. b



2.

As the instruction says in picture 2, students have to grab each of the words and place them under the right image. With the help of these words they can describe the different situations presented by the pictures and can work out a plan how to get prepared for these disasters.



Find every letter on the picture and put them in the right order!

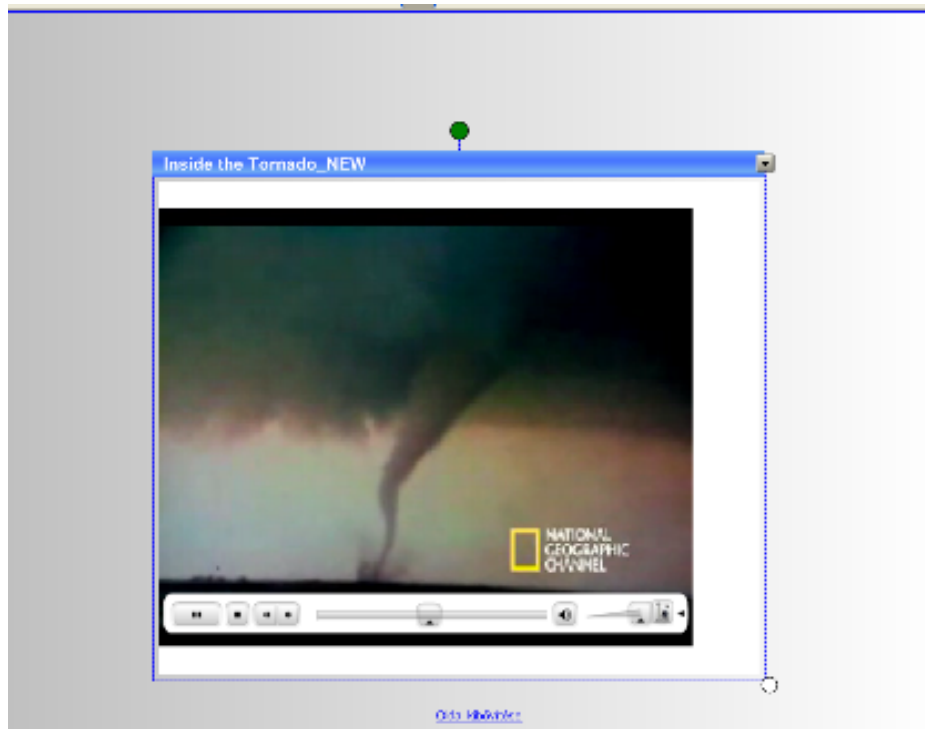
3.

The exercise of picture 3 is more complex: learners have to find the letters in the montage and then form a word from them. As they find a letter, they say what the certain image depicts. When they are ready, they can draw the curtain and have a look at the picture behind it.



4.

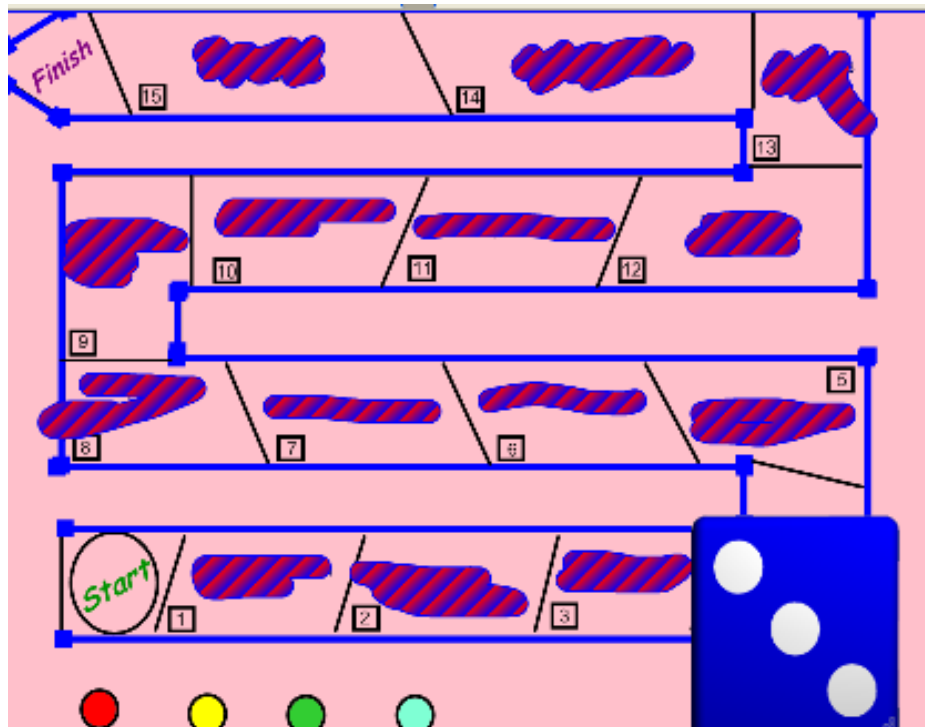
The page in picture 4 presents some links to different video pages, such as picture 5 and picture 6. The software can handle only flash files. By clicking on the triangles after the titles, the hyperlink jump to the particular page and the short movie starts immediately. I tried to choose clips that are easy to understand, it can be a good way of improving listening skills.



5.



6.



7.

Picture 7 is a board game, which can be played both by teams and individual players. I have mentioned the commanding role of the gallery above; the dice is part of it, a little animation. One click and we save throwing the dice. We can move with the pieces according to the number has been thrown with the dice. When we move, we have to erase the creative pen in the certain field, where a question appears. If we know the right answer, we can move forwards again. The winner is the one who finishes the game the fastest.

Even if it is a great challenge for some teachers to start studying the use of the board, the acquired skills will enable them to employ a great variety of new techniques in language teaching. I presume that later on ready-made exercise packages, course books will be provided with the interactive boards by publishers. Proper planning, preparation and training are inevitable requirements of the successful use of the device that is suitable for the teaching of a wide range of subjects, for all ages.

8. CONCLUSION

I believe that not every teaching program deserves to be used; there are many which only make their users tired and do not have valuable content and result. But today, more and more teaching aids break into the market widening the available resources. Students like computer aided lessons better, and it saves much time for the teachers as well.

I personally experienced how easy it is to teach with such tools. I use English teaching software with my private students. It is significant that words, expressions, grammatical forms – which are practiced with that certain software – are memorized much more long-lasting.

Thanks for the several invitations to tender, many schools have grabbed the opportunity to apply and get interactive boards in Hungary. Sadly, most of the teachers have not taken the chance yet to make these board work in their lessons, the boards just stay in the corner to be the objects of the teachers' admiration when they walk by.

Teachers should not be afraid of applying interactive boards; their usage is easy, with 1 or 2 hour long preparation anyone can become a master of interactive whiteboards. Of course, exploring all the possibilities they offer would take much more time, but a few hours are enough to acquire the basics.

More and more people claim that traditional teaching methods should be completed with computer aided methods which would initiate a new age in language teaching. Digital boards and certain teaching software offer interesting, colourful classes and highly motivated students to teachers. As I stated in the first chapter of my thesis, development is unstoppable and the techniques of English lessons- as everything in this world- should keep pace with this development.

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10. Appendix

Appendix 1: Sandor Forgo's software evaluation:

MULTIMÉDIA FELHASZNÁLÓI PROGRAMOK ÉRTÉKELÉSI SZEMPONTJAI

A multimédia-program értékelését az 5 fokú skálán az alábbi skála szerint lehet elvégezni.

Egyáltalán nem tetszett (felelt meg)	Nem tetszett (felelt meg)	Nem tudom eldönteni	Tetszett (megfelelt)	Nagyon tetszett (Nagyon megfelelt)
1	2	3	4	5

ÁLTALÁNOS ÉS KOMMUNIKATÍV SZEMPONTOK	
I. Az üzenet megfogalmazása	
Szakmai pontosság, hitelesség	1 2 3 4 5
Tartalmi-formai jegyek	1 2 3 4 5
A közlendő egyszerűsége	1 2 3 4 5
Érthetőség	1 2 3 4 5
Tömörség	1 2 3 4 5
Ösztönző járulékok	1 2 3 4 5
Az üzenet monologikus, narratív, dialogikus elemeinek megfelelő aránya	1 2 3 4 5
II. Rendszerszemléletű tervezés (médiaelemzés, tervezés)	

A célkitűzésnek megfelel-e program	1 2 3 4 5
A produkció testreszabottsága	1 2 3 4 5
A médiaelemzés megjelenítés színvonala	1 2 3 4 5
Az eltérő tanulási stílusnak való megfelelés biztosítása	1 2 3 4 5
Egyéni és csoportos használatra való alkalmasság	
A tanult fogalmak mérhetősége	1 2 3 4 5
III. Struktúra	
A tartalmi struktúra megfelelősége	1 2 3 4 5
A logikai struktúra	1 2 3 4 5
Az elhelyezési struktúra	1 2 3 4 5
Átláthatóság	1 2 3 4 5
Bejelentkező oldal felépítése	1 2 3 4 5
Menüpont oldal felépítése	1 2 3 4 5
Menüpontok, modulok megfelelősége	1 2 3 4 5
Színek adekvát alkalmazása a különböző szinteken	1 2 3 4 5
IV. Navigáció	
Tartalmazza-e a minimális navigációs elemeket	1 2 3 4 5
Tartalmaz-e kereső, tallózó programot	1 2 3 4 5

Mutatja-e az aktuális pozíciót (menü alpontokat).	1 2 3 4 5
Segíti-e az eligazodást	1 2 3 4 5
V. Kommunikáció-interakció	
Akció-reakció (várakozási idő)	1 2 3 4 5
Megszakíthatóság	1 2 3 4 5
A társalgás fenntartásának az elve	1 2 3 4 5
A korlátozott előrelátás elve	1 2 3 4 5
A végtelen adatbázis érzésének az elve	1 2 3 4 5
ÁLTALÁNOS (PEDAGÓGIAI, PSZICHOLÓGIAI, ERGONÓMIAI) SZEMPONTOK	
VI. Pedagógiai-didaktikai szempontok	
A feldolgozás megfelel-e tanulási céloknak (kognitív, affektív, pszichomotoros)	1 2 3 4 5
Fenntartja az érdeklődést a tananyag iránt	1 2 3 4 5
Ösztönzi a felhasználót a tanulásra (interaktivitás)	1 2 3 4 5
Teljesül-e a figyelem fenntartásának az elve	1 2 3 4 5
Teljesül- e a türelmes várakozás elve	1 2 3 4 5
Teljesül-e a megerősítés elve	1 2 3 4 5
Megvalósul-e az önaktivitás elve	1 2 3 4 5
Teljesül-e a pragmatikusság sugalmazásának érzete	1 2 3 4

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VII. Pszichológiai, egonómiai szempontok	
Képernyőkép-felépítés	1 2 3 4 5
Menyire emberhez igazított a program	1 2 3 4 5
A kognitív térkép a tananyag szerkezetéről	1 2 3 4 5
A műveletek befejezése és kilépés (menekülése) egyszerűsége	1 2 3 4 5
Ritmus, az elágazások, kapcsolások megfelelő aránya	1 2 3 4 5
Könnyen megjegyezhető kezelési szabályok	1 2 3 4 5
Dialógus ablak kiemelkedő elérhetősége	1 2 3 4 5
Felhasználóbarát kialakítás	1 2 3 4 5
A látvány megtervezésének eredetisége	1 2 3 4 5
A navigációs elemek azonos helyre történő helyezése	1 2 3 4 5
Interakció visszajelzés	1 2 3 4 5
A hibaüzenetek megléte	1 2 3 4 5
A tanult ismeretek megtartása az idő során	1 2 3 4 5
A felhasználó memóriaterhelésének kímélése	1 2 3 4 5
Hibák előfordulása	1 2 3 4 5
A rendszer használatának egyéni igények szerinti alakíthatósága	1 2 3 4

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A használók szubjektív elégedettsége	1 2 3 4 5
A használat közben tapasztalható fáradás, feszültség, frusztráció	1 2 3 4 5
Az emberi képességek sokoldalú használata	1 2 3 4 5
Nem tapasztalható az önértékelés csökkenése	1 2 3 4 5
Gondot fordítottak a monotonitás elkerülésére	1 2 3 4 5

VIII. MULTIMÉDIA-KOMPONENSEK	
A vizuális elemekről	
8.1. A szöveges részek	1 2 3 4 5
Egyszerűsége	1 2 3 4 5
Olvashatósága	1 2 3 4 5
Tagolása	1 2 3 4 5
Tömörsége	1 2 3 4 5
Szembarát megjelenítése	1 2 3 4 5
8.2. Számok adatbázis alkalmazása	
A keresés gyorsasága	1 2 3 4 5
Áttekinthetősége	1 2 3 4 5
A haladás bemutatása	1 2 3 4 5
8.3. Állóképek	
A komponáltság	1 2 3 4 5
A tudatos színhasználat, a színhasználat elveinek a betartása	1 2 3 4 5

Az alakok és a háttér megkülönböztetősége	1 2 3 4 5
A rendezett csoportosítás	1 2 3 4 5
A képi kiemelés eszközei	1 2 3 4 5
8.4. Szimbólumok-logók	
A kivitelezés egyszerűsége, közérthetősége	1 2 3 4 5
Mennyire integrálja magába a jelenséget, fogalmat	1 2 3 4 5
A lényegkiemelés mértéke	1 2 3 4 5
Az eredeti jelentésére való utalás	1 2 3 4 5
8.5. 3D ábrázolás	
A modultest térbeli bonyolultsága	1 2 3 4 5
A modultest térbeli megjelenítése (térhatás)	1 2 3 4 5
A modultest térbeli anyagszerűsége (textúrája)	1 2 3 4 5
A világítás megválasztása (térhatás)	1 2 3 4 5
8.6. Az animáció alkalmazása	
Az animáció alkalmazásának indokoltsága	1 2 3 4 5
Folyamatosság, egyenletes mozgás	1 2 3 4 5
A mozgás valószerűsége	1 2 3 4 5
Dinamika (gyors, kiegyensúlyozott, lassú)	1 2 3 4 5
Figyelemfelhívó jellege	1 2 3 4 5
8.7. Aktív felületek	1 2 3 4 5
Következetes elhelyezés	
Az aktív felületek folyamatos, illetve indokolt jelenléte	1 2 3 4 5
Az alak- és formaváltozás következetessége	1 2 3 4 5
8.8. Az auditív információk	
A szöveg érthetősége	1 2 3 4 5

A szöveg tagolása	1 2 3 4 5
A háttérzene eredetisége	1 2 3 4 5
A szöveg, a zene, és a hangeffektusok dramaturgiai hatása	1 2 3 4 5
8.9. Mozgóképi formanyelvi sajátosságok	
A kompozíció	1 2 3 4 5
A képkivágás	1 2 3 4 5
Élesség	1 2 3 4 5
A megvilágítás, színhelyesség	1 2 3 4 5
Kameramozgások egyenletessége	1 2 3 4 5
Kamerabeállítás pontossága	1 2 3 4 5
A képsorok dinamikussága	1 2 3 4 5
Képsorépítés helyessége	
A képfrekvencia képméretnek megfelelő megválasztása	1 2 3 4 5
IX. TECHNIKAI KIVITELEZÉS MINŐSÉGE	
Nem tapasztalható zajosság (az érthetőséget befolyásoló elemek túlsúlya)	1 2 3 4 5
X. JÁRULÉKOS ELEMELK	
Borító kialakítása	1 2 3 4 5
Fülszöveg, tartalmi leírás	1 2 3 4 5
A futtatáshoz szükséges hardverigény, és operációs rendszer szükséglet leírása	1 2 3 4 5
A felhasználói környezethez igazodó paraméterek beállítása	1 2 3 4 5
A futtatás egyszerűsége (installálás, automatikus indulás)	1 2 3 4 5
XI. ONLINE FRISSÍTÉS	
online információküldés	1 2 3 4 5
online frissítési lehetőség	1 2 3 4 5

telefonos segítségnyújtás	1 2 3 4 5
XII. SZUBJEKTÍV ÉRTÉKELÉS	
Személyes összkép	1 2 3 4 5
Terjedelem:	110–550 pont

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