Title: Reading Comprehension Software to first year students of the English Language Major.

Authors: MSc. Ricardo Becerra Franco. Associate Professor.

Daimara Davis Bencomo. BA

Nelson Hidalgo Ríos. BA

School of Languages and Communication

University of Camagüey

Introduction

For many years, the computer was considered to be an instrument for the calculation of complex operations. From the 50s some projects begin to materialize for its use in the teaching process in developed countries. With the emergence of the microcomputer in the first half of the 70s, the interest for computer- assisted education grew significantly.

The 80s saw an increase of didactic applications in computers (educational software), accompanied by theoretical publications and by specialized journals, including the area of foreign language teaching. In the circles of teachers of foreign languages there appears a new section of work currently known as Computer-Assisted Language Learning, or generally as CALL. (Downes, 1993)

In this context there is a group of terms to refer to the education or to learning that it uses the computer actively. Among others, they are:

- Education (or Learning) Assisted by the Computer
- Education (or Learning) Controlled by the Computer
- Education (or Learning) Based on the Computer
- Intelligent systems of Education (or Learning)
- Learning with Information Technology
- Learning by means of Computer Communication

"We think that in the use of these terms, the behaviorist tendency of minimizing the role of the teacher in the direction of the process of education – learning is latent, with which we do not coincide. We stand on the criterion that the computer is another technical aid in the education-teaching process, which fulfills the function to allow the didactic aid - the software - to make education more efficient, on one hand, as learning, in which it is the principal goal." (Macías, 2000:26)

The computer is within the technical aids that allow information manipulation. Uria (1989) states that the introduction of the computer in the education - learning process must contribute to the increase of the optimization of the educational systems.

Already in the 90s, with the appearance of Internet, a long scope jump takes place in technology in regards to a greater possibility of access to materials, persons and ambiences of learning (Levy, 1997). In this same epoch the local networks also appeared, favoring the access to information to small scale, for example, in the ambience of institutions, organisms of the State, research centers, among others.

"The introduction of microcomputers in higher education in Cuba brought about immediate results as a change in the conceptions that we had about them in the educational sphere in our country." (Macías, 1986)

The major of English language opens in Camagüey in the year 2005, beginning with the improved Study Plan "C". Part of the teaching literature of this plan was in preparation, and the existing one was not satisfying the number of students in this major in the whole country. The books that were lent at the beginning of school terms returned to the store in the end with some deterioration, and sometimes, with answers to the exercises already written, what was a problem for the next term.

The conditions of the Cuban economy imply that teaching literature for the huge number of students in higher education turns into a critical aspect for the education - learning process. Nevertheless, with the existence of more and more computers, laptops and tablets in the population, the number of computation labs in the centers of higher education, and the "Young Club" available in the cities, to propitiate digital resources for independent study of the different school subjects is one of the solutions to the problem of teaching literature. The teachers prepare digital teaching materials for the students in the most dissimilar forms: PowerPoint presentations, PDF's and Microsoft Word files, tables of Microsoft Excel, applications prepared as a whole with specialists or students from the specialty of Computer Science, etc.

"The computer means used appropriately in the teaching - learning process, can favor the individualized attention of the students according to the development reached and, hence, they give the possibility of offering the necessary helps, not only from the interaction teacher - student and student - student, but from the proper exchange with the content, which has also been socially created. All this takes importance in all the modalities of the Higher Education." (Cabrera, 2016:80)

This paper is focused on the Reading component taught to first year students of the English Language major. It is a fact that the necessary materials for the teaching/learning process of the subject in matter are not at hands reach of both, students and teachers, thus thwarting this process.

The piece of software will serve as a teaching aid to support the teaching/learning process of the component of Reading Comprehension and also as a tool to increase students' self-preparation on reading skills, and their acquisition of vocabulary and knowledge that could be later applied to Panorama and speaking.

Regarding the piece of software, it is a powerful instrument that will make possible the independence of the student since it is based on the content of the program and at the same time it will have other topics linked to the main objectives.

The problematic situation leans towards the lack of an accessible source of compiled data to enrich and consolidate the teaching/learning process of the reading component, in the English Language Major first year students of the Language and Communication faculty at the University of Camagüey.

Materials and methods

For the development of this study, theoretical and empirical methods were applied, from both a quantitative and qualitative perspective of the investigation. The used theoretical methods allowed to study the problem, construct and develop the theoretical essentials and carry out the initial and final qualitative analysis of the investigation. The empirical methods made the reflex of reality possible from its properties and relations and favored the compilation of information to verify the scientific presumption. The application of the interview and the survey made the retrieved information possible about the investigated object. The experts' criterion has not yet been applied.

In the design of the software it was initially considered that it should be of a very simple structure for its distribution, only two files: an executable file and a database, sufficiently small as to be stored in a USB memory of little capacity, like those that are commercialized in the city. Another important element of the design was the working environment that, although the students are familiar with the work with programs of different ambiences, had to be well simple for a suitable use.

The program was made in Pascal language, in the environment of Delphi XE6, with object –oriented programming so that it allows the reusability of the code. The database was encrypted and password protected to avoid the access to its contents, which are the teaching materials of the subject with exercises. The application (program + database) does not exceed 1Gb of size, so it can be stored easily in a USB memory. The use of the program does not require a previous installation, discarding the limitation of administrative privileges in the operating system of the computer to be used. The only requisite of use that it is necessary to observe is that the operating system must have installed some version of some program that serves to visualize PDF format files.

Both, the database and the program, make appropriate use of the relational mechanism of the information to guarantee its integrity, as well as its uniqueness and uniformity. This is to achieve that there is no unnecessary duplicity and hence the size to be as compact as possible.

The program consists of a principal screen with a menu that gives access to information and to the exercises. It also has a mechanism of illustrated help and it is accompanied of a map of navigation that shows a table of contents where the different components are in the environment of the program.

A precedent of this work is the one carried out in the specialty of Medicine, where the students are provided with a series of compact discs with teaching materials for the discipline that serve for their self-study. The work in this specialty is done by a group administratively independent from the teaching departments known as *Galenomedia*.

Results and discussion

The pedagogic experience was put to practice in the first semester of the academic year 2015-2016, which is taught in the 1st year of the major of English language, a group formed by 13 students, all with electronic devices (computers and laptops) capable of executing Windows applications, and with some experience in the efficient use of these means.

In an initial study made by surveys, observation and interviews, it was corroborated that teachers generally use files with informative content of their subjects in Word or PDF format, and PowerPoint presentations. Also students were asked to prepare works to be delivered and be evaluated in the same formats. This information coincides when the majority uses these file formats in the computer. And contrary to what one listens when some teachers explain why they do not use educational technologies raising that "most of the students do not have an electronic device …", in addition to having the PC at home, they have intelligent phones and some even duplicate the capacity with a laptop.

In the study it was stated that the students use IT to solve dissimilar personal and academic tasks. Also there exists a greater use of the possibilities of the networks, both national and international. The University of Camagüey has an intranet service with varied content and directed to the needs of students, teachers, and workers in general. The students in the studied frame develop skills in the use of the networks.

According to these results, there has not been availability of educational technology prepared in order to serve to the target subject of the Study Plan. As Machado pointed out (1988:3): "... there are not integrating grounds, at least in our country, which allow the results of the use of computers in the learning of diverse sciences, and particularly in the sphere of foreign languages..." After almost thirty years, this situation is still the same in the education of the English language in Cuba at the university level.

Nevertheless, subjects make use of the IT to support the fulfillment of the objectives of the programs. To this end, professors deliver study materials fundamentally in the format of Microsoft Word, Acrobat Reader (PDF) and Microsoft PowerPoint, and works are oriented to be made in the suite of Microsoft Office.

A similarity of results exists with those of the work done by Ganem (2013) in the School of Medical Sciences in Guantanamo, in the subject of *Morfofisiología*, in which it is said: "It was logical to hope that the students should highlight the importance of the educational software as an option for learning since materials are prepared with a didactic purpose, they are interactive, they individualize work, and are easy to use, use resources offered by multimedia techniques, and with its use there is a greater motivation and interest of the pupils in learning."

As Granados-Romero states (2014:291), "In this approach the student is the only one responsible for his learning, interacting with the information with a critical, reflective and creative vision, managing his own learning supported on the teaching mediation and the information sources that he has, part of the success in this new educational paradigm is in the interest, the motivation and the persistence of the students."

There is not a similar work in any other university of the country in the major of English language. There are, from interviews, the testimonies of the University of Havana, the Central University of Las Villas, the University of Oriente, the University of Holguín, among others. There is only evidence of isolated works in the topic of IT in these centers of higher education.

In the international field, there exists a group of computer programs devoted essentially to persons that learn the English language as a cultural element, but most of these follow commercial criteria and underestimate the pedagogic component (cf. Headway, Interchange, Rosetta Stone, among many others).

In a study carried out by Cotton (1991), from the analysis of 59 reports of research results, all properly documented, it is informed in 29 of these that the use of computers in the education process produced better results than the ones obtained in traditional education. There are 13 reports that state that the speed of learning is greater. There are 8 reports that exhibit better results in the index of memorizing contents. 3 reports emphasize that the attendance of students to courses was much better.

Orwig (1983), Fetter (1984:19-21), Heines (1984), Futrell (1985:13-15), Hubbard (1987:227-254, 1992:39-45), Keller (1987), Woodbury (1988), Legenhausen (1989:79), Laurel (1990), and Ephratt (1992:249-259), expose the desirable characteristics for an educational software, which can be summed up as follows:

- Suitable treatment and effect of the colors on screen.
- Quantity of information that must appear on a screen.
- Types of exercises that can be implemented from the possibilities that the computer programming language offers.
- Methodology for the evaluation of the answers of the student.
- Facility of work of the student with the user interface of the software.
- Information that the software must gather about the student for the feedback of the instructive process.

A positive aspect in the implementation of the program is the presentation of the exercises in random form, which is not typical in another software of this type. Most of the programs for foreign language learning present the exercises in sequential form, which favors the monotony and the mechanics in the solution. This random presentation of the exercises makes possible that, in every training, the set of items is different from the previous one. The fact of storing the exercises in a database also allows to have a great number of items, out of which a reasonable number will be selected randomly for its solution.

Hardisty (1989) reaffirms the idea of that the use of computers favors positively the interest towards the teaching and states that nobody who has observed the concentration of a group of students using computers can doubt about its motivational power.

Conclusions

This paper intends to improve the teaching/learning process of Reading Comprehension. It proposes the implementation of a piece of software that will give solution to the problems found during the research. The application of the software will not only make use of the new technologies that have proven their effectiveness in language learning, but will also solve the problem of bibliography lack.

The integration of the computer and software to be used as a didactic aid in the process of formation of linguistic skills in a foreign language is not very common in the language courses neither in our country, nor in many other countries in the world. There already exists an important accumulated experience mainly in developed countries (England, France, Spain, USA, Canada, Japan, etc.), in frames of education that differ somewhat from the reality of a country like ours.

The students showed satisfaction in the use of this program. The program turned out to be easy to use and useful. The exercises of the program facilitated the assimilation of the contents of the subject. The subject benefited with the use of the software prepared to work as a teaching aid, as a replacement of a not available textbook, with which all the students had easy and comfortable access to the information, and availability of a great number of exercises to verify the level of assimilation of the contents of the subject. The motivation was visible, measurable by the interest showed towards the new teaching aid, something that they had not experienced in any other subject in the previous years.

Recomendations

- To continue working on the improvement of the program in regards to updating the contents and exercises.
- To study the pedagogical benefits of this teaching aid in regards to students' self-preparation.
- To introduce this kind of teaching aid in other subjects given the students' motivation to use this kind of teaching aid.

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