Deleting Differences, Formatting Citizenship: A case of digital and social inclusion

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Abstract: This paper presents the Extension Project “Deleting Differences, Formatting Citizenship,” undertaken by students of the Department of Computer Science of the State University of Maringá at the Institution “Lar Escola da Criança de Maringá.” The project contributes towards a decrease in differences among social classes so that the access of computer technology may increase. It also aims at providing digital inclusion and technical computer knowledge to teenagers in situations of social and personal precariousness. Adopted teaching and learning methodology focused on the social and educational approach. Several results were reached after three semesters of activities.

Keywords: case studies, learning models, teaching methods, social

1. Introduction

Since the world is currently overloaded with information, types of work undergo critical changes. Consequently, the use of computers has become crucial to find a place on the labor market. Basic knowledge in micro-informatics has become the acid test to exclude those less prepared. In the case of a community featuring social and personal precariousness, such a filter has become the main obstacle for their professional advancement. This is more so since resources towards an effective social and digital inclusion are scarce in the Brazilian Education System. Further, Coelho [1] states that it is unclear where to place computers to make sure they will be used efficiently whereas “there is very little research on the most appropriate placement of computers to achieve learning objectives”.

So that the requirements of digital inclusion could be achieved, the institution “Lar Escola da Criança de Maringá” has established a project named "Deleting Differences, Formatting Citizenship". Its courses have been prepared for children, teenagers, young people and adults in social precariousness conditions, and intend
to provide them with technological inclusion. They may thus achieve new opportunities and qualifications in the labor market and, consequently, an important improvement in the quality of their personal, familiar and community life. Teenagers are the main target audience of the above-mentioned project.

“Lar Escola,” founded in 1959, in Maringá PR Brazil, is at present under the co-responsibility of the religious congregation "Irmãs Murialdinas de São José," which is accountable for the institution. Its main mission is to serve children, teenagers, young people and families in precarious social and personal conditions by providing them with conditions for their human, educational, cultural and professional development, and guiding them to participate in the fulfillment of their rights and duties as citizens [2]. Children and teenagers are currently attended to by the Institution within a social and educational system during the period the subjects are not at school. Courses, such as clothes manufacturing and informatics, are also provided for their families. The joint venture established between Lar Escola and the Department of Computer Science (DIN) of the State University of Maringá (UEM), on August 2007, guaranteed the continuation of the above-mentioned project. The subjects who execute the project are university undergraduate students from the Computer Science, Informatics and Production Engineering (focused on softwares) courses. The project includes courses of Basic Informatics, Hardware - Basic and Advanced Levels and Introduction to Computer Networks, Photoshop® and CorelDraw®. The course of Basic Informatics is a prerequisite to advanced courses. In fact, DIN offers ten scholarships to undergraduate students, called instructors, to monitor classes attended to by the project.

Current essay describes the methodology used in the project in order to provide a better performance and involvement in the teaching and learning process. Methodology, presented in Section 2, has been adopted to achieve the project’s goals. Several results reached after the joint venture are reported in the Section 3. We believe that this project is a good example in which computers have been used to achieve learning and social objectives. Section 4 will show some conclusions.

2. Methodology

The teaching and learning methodology applied in the project has given priority to a contextualized social and educational approach. Further, methodology respects the teenagers’ limits and boosts their potential desires when their interest in attending classes is manifest. The content contextualization is done through songs, professions, poems, films and analogies to their daily experience. Thus, it is accomplished what Schlänzen et al. [3] proposed: to direct the study of informatics as an ally to retrieve students’ interest, helping them and contributing towards the improvement of learning. All themes lead towards interdisciplinarity which is more than a mere set of disciplines, but the combination of art with science [4]. Haddad and Jurich [5] have used Information and Communication Technologies (ICT) to foreground the teaching and learning process in a manner
close to our approach, through the linking between contents and students’ daily life. With regard to ICT, Dhanarajan [6] said that “planning for effective use of ICTs in education necessitates understanding the potential of technology to meet different educational objectives and deciding which of these objectives to pursue”.

According to Schlünzen et al.[3], digital inclusion provided the right to: (i) the access of the digital world for the intellectual development (education, knowledge generation, participation and creation) and (ii) the development of technical and operational capacity. Contents addressed during classes have been worked through lectures and in practical classes in the informatics labs of Lar Escola, using analogies with several objects or situations from daily life. In order to help the teenagers memorize the content, the instructors propose practical exercises during the class and exercise lists. There are two informatics labs in the institution and all the necessary resources have been acquired as donations.

Each class is assisted by a couple of instructors, who also create the material used during the classes. All the instructors have weekly meetings with the project coordinator (DIN professors) to exchange experiences and to undertake other activities. There is also an online discussion group in which all the people involved participate in an effort to share the knowledge and material created.

The topics which compose the Basic Informatics module comprise the computer’s main components, Windows XP®, the Microsoft Office® package (Word, Excel and PowerPoint) and the main functionalities of the Internet. With regard to the personal, cultural and citizen formation of the teenagers, during the course, the instructors use song, national poems and texts relevant to their formation, in an attempt to incentive their interests for the arts and for Brazilian culture. On the other hand, it is possible to use themes related to professional formation. It is expected that, working such themes, interest for a profession or a proper academic formation is instigated. It also aims towards an improvement on the use of Portuguese, training for office jobs and cultural expansion.

Training on Excel®, some contextualized techniques comprise (i) the use of tables from the Brazilian Institute of Geography and Statistics in an effort to show the teenagers the size of the Brazilian population; (ii) tables and functions which simulate real enterprise situations, such as tables on accounts control or tables on clients; and (iii) graphs, which perfectly illustrate mathematical fractions.

The study of PowerPoint® is integrated with the Internet, and the final task given to the teenagers is to elaborate a slide presentation show, whose themes are previously chosen in an attempt to stimulate their research and creativity. When they speak to the class, their inhibitions are lessened.

In the hardware courses themes discussed interact with regular school subject matter, for instance, when the energy transmission into a hardware component is explained, a review of concepts belonging to Physics is demonstrated. Consequently, the teenagers learn not only how the contents studied at school are applied to computer science, but their general knowledge broadens and deepens.

A module is offered to work with publishing figures and images, using software CorelDraw® and Adobe Photoshop®. When possible, the instructors chose images and figures whose content showed concepts leading towards what is
expected from them as responsible citizens. For instance, one of the edited figures during the course was the widely known symbol of “No Smoking.”

The finalization of each semester was celebrated by a graduation presentation, where the teenager’s relatives from all the projects promoted by the Lar Escola were invited. In such solemnity, each teenager received a certificate. The best final works were shown at the ceremonial as a way to congratulate the teenagers who had successfully finished their course.

3. Results

Prior to the joint venture with DIN/UEM, the number of teenagers which the Institution assisted with regard to the project was 53, an average of 27 per semester. At the end of three semesters of this partnership, 106 teenagers were assisted, which represented an increase of 33% on the quantity of teenagers attended to in the Basic Informatics course. Taking into account the Hardware and the Photoshop® and Corel draw® courses, innovations to this project, 20 teenagers concluded the former course and 19 concluded the latter one. At the end of three semesters, a total of 145 teenagers obtained their certificate. During the same period, the average grade of teenagers was 8.4 (scale: 0-10) and the average attendance was close to 88%.

In 2008 course conclusion guaranteed to 10 teenagers their integration to another program called Apprentice Teenager. Its main goal is to provide the teenager with the position of a trainee in local companies. Data reports show that 40% of these trainees were actually employed at the end of the apprenticeship period [2]. Admittance to the program Apprentice Teenager is one of the ways to achieve one of the main goals of this project, or rather, professional inclusion. It has also been observed that the work with the contextualized pedagogy contributed towards the development of the social and personal life qualification, which is another aim of the project. This fact is evidenced by Sister Elizete Maria Andreola, social assistant responsible by the project on Lar Escola. She said that it was possible to observe changes in the behavior of the teenagers who participated in it. She also said that each of them improved their achievements during their routine work. For instance, children, who have demonstrated the progress of information technology, are faster in answering logic questions and in task solving than other children. Other facts highlighted on the behavior of many teenagers were an increase in their self-esteem and motivation. In many cases, teenagers demonstrated interest in continuing up to the end of the course.

According to the instructors, results were better still. One instructor said that one of the experiences was related to the perception of how the environment in which people are inserted may limit their world vision and opportunities. Furthermore, it has been possible to notice an increase in the instructors’ personal and professional fulfillment.
4. Conclusions

The partnership between the University and the Lar Escola contributed significantly towards both groups involved, the teenagers and instructors. From the point of view of the teenagers, participation in the project provided a vital step towards a decrease in the computer and social exclusion. Their self-esteem and self-confidence contributed towards a better and hopeful future in people who lacked the privileged and were barred off by the social system. From the point of view of the instructors, research and studies undertaken with teaching and learning methodologies enriched their academic curriculum.

The contextualization of the contents studied in the classes through the use of themes which attract the interest of teenagers achieved the main goals which were successfully reached, as results have shown. It is expected that the undertaking of multidisciplinary activities may contribute towards the teenagers’ better schooling. Evidences may be perceived in the near future.

Since the University has social responsibility towards the region’s societies, the project will surely continue to produce results. Continuous improvement of didactic material and of the teaching and learning methodology will always be our objectives. They aim at the development of the personal, social and professional formation of children, young people and adults who find themselves in precarious situations.

Finally, it is clear that Deleting Differences, Formatting Citizenship project is a successful case in which computers have been used to achieve social, professional and learning objectives.

References