



ICTBell: a Concrete Contribution to Combat Social Exclusion and the 'Invisible' Digital Divide

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Abstract

ICTBell (ICT Content Integrated Online Business English Language Learning for Adult Dyslexics) is a European project founded with support from the Lifelong Learning Programme of the European Commission, focused on transferring innovative technologies from the ICT sector to the English language learning for adult dyslexics.

Coordinated by the Spanish partner, the project is supported by the contribution of organizations from other four European countries: Bulgaria, Germany, Hungary and Italy. At the International Conference "ICT for Language Learning", the Italian partner TUTOR European Centre for the Development of Advanced Expertise presents the innovative ICT-based methodology, results and resources realized by ICTBell, available for further deployment by all interested communities.

The results of the project offer a concrete answer to the social exclusion of dyslexics from the internet world. ICTBell considered the different, 'invisible', type of digital divide caused by the fact that dyslexics experience difficulties in understanding the content in websites. This is due to Internet small or peculiar, blinking or moving fonts, large blocks of text, redundant use of capitals or italics, poor contrast backgrounds, cluttered page layouts and animated images or text.

The Business English language course constructed by the ICTBell project - integrated in a dyslexic friendly standardized learning environment -takes into account all these issues, contributing to the demolition of the invisible yet impenetrable wall in the usability of the web that dyslexics have to face.

Targeting at the creation of a specially designed Business English Language Learning ICT-based course and a virtual learning environment (VLE) where dyslexic learners can thrive through the integrated e-learning content, virtual learning environment and online tutorage, during its first phase the project ICTBell investigated directly the field of dyslexia and language learning in the five participating European countries (Bulgaria, Germany, Hungary, Italy and Spain). Moreover, at the end of the project, final testing activities have been conducted to assess the fulfilment of the users' needs.

The studies related to these analysis and evaluation activities, and additional resources on the topic, have been made available at the project website, for further consultation of the interested communities.

At the International Conference "ICT for Language Learning", the project also presents feedbacks and kinds of use of the provided outcomes and resources in Italy, as exemplar suggestions about how to support the targeted dyslexic users by the ICTBell environment.

Moreover, the results of the ICTBell project are intentioned to foster the production of further ideas, applications and environments, to allow the dyslexics to overcome their 'invisible' digital divide and to give them back their right to fully use the internet. Possible new areas of research and development, matching with the objectives of the Lifelong Learning Programme of the European Commission, have been identified and will be shared with the interested communities for further deployment.

Introduction

Reading and writing are essential to knowledge in our information age, from ebooks to LIMs (electronic blackboards), so the Internet, today more than in the past. However reading and - as consequence - writing, are arduous for persons who have developmental dyslexia. Developmental dyslexia is a specific learning disability that consists in persistent failure to acquire efficient reading skills despite conventional instruction, adequate intelligence, and socio-cultural opportunity. Dyslexic people usually show a deficit in the phonological component of language that impairs their ability to segment the written word into its underlying phonological components, thus experiencing difficulties in acquiring proficient skills in reading, writing, and spelling. Today the opinions regarding dyslexia are multiple, due to the fact that it is widely considered an "invisible disability". Dyslexia is not recognizable by a visible impairment - like blindness, for example -, nevertheless it determines a relevant disadvantage for the affected individuals. A dyslexic person cannot be distinguished from the outside, thus leading to the fact that this disability often remains undiagnosed. Dyslexia determines a handicap, namely, applying the definition of WHO (World Health Organization), 1980: "a disadvantage for a given individual, resulting from an impairment or a disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual". This condition determines a sense of frustration, psychological unease, loss of self-esteem and aversion toward school and culture in general, especially in an era of multimedia and in a knowledge-based society, social relationships and culture are mainly accessible through reading and writing.

Most of the material found on the Internet is to be read and most interaction takes place through reading, even more in the era of web 2.0: we read by surfing the net, by exchanging messages on our mobile phones, we write participating in chat rooms or posting on our blog. In addition to that, communication is fast, in most cases all parties involved in the discussion are online simultaneously and they are communicating in "real time". The same applies to the asynchronous applications, such as blogs: reading an endless list of posts can be very tiresome and replying to them very difficult for dyslexics. All these environments are entirely textual and may become an additional disadvantage to dyslexic persons. Almost any human or professional activity is nowadays related to reading, from shopping (i.e. prices) to health (i.e. medicals information) to citizenship (i.e. application forms, certificates), to social inclusion (i.e. reading newspapers, books). It is easy to deduce that people with this kind of problem may have difficulty in understanding the content in websites for example, and may find some common problems using the Internet such as: small fonts, poor contrast backgrounds (either too low or too high), large blocks of text, cluttered page layouts, animated images or blinking/moving text, lots of capitals or italics, or justified texts (resulting in uneven spacing between words). This is the reason why it is very important that web developers become more and more aware of the difficulties some people have to face, and encourage them take measures to enhance web accessibility and usability for dyslexics so as to avoid digital and social exclusion. Thus regarding, a specific contribution is given by ICTBell project with the report "ICT in English Language Teaching and Learning in support of the dyslexic individual", by Boris Stoyanov. It is evident that proper adjustments and ad hoc solutions are necessary to avoid additional barriers for people with cognitive disabilities in general, and dyslexia in particular. The nature of these adjustments does not have to be necessarily technological, and may consist in moderating and tutoring strategies. It is important to remember that to this regard the Riga declaration states that "ICT contributes to improving the quality of everyday life and social participation of Europeans, facilitating access to information, media, content and services, to enhanced and more flexible job opportunities, and to fight against discrimination. Improving ICT access for people with disabilities and elderly is particularly important. To convincingly address e-Inclusion, the differences in Internet usage between current average use by the EU population and use by older people, people with disabilities, women, lower education groups, unemployed and 'less-developed' regions should be reduced to a half, from 2005 to 2010".



In recent years the idea that Internet would contribute to a new era of participatory democracy and a revitalisation of the “public sphere”, to use Jurgen Habermas’s words, has become dominant, but there is the real risk that what has been proclaimed as a tool of democracy can turn into a factor leading to social marginalization for those who are not able to master the processes of reading/writing proficiently. To avoid this risk, it is necessary that the educational and social institutions consider the problems and difficulties that people with disabilities have to face when they use modern technology, and provide them with specific tools like training, and software. Only in this way can technology be considered, if not the solution, at least a part of the process to minimize the impact of dyslexia on individuals, to promote social inclusion assisting with the difficulties, the anxieties and the problems that the dyslexic have to face in everyday situations. Let’s consider the working environment: speaking and writing in English is becoming very important for workers today, so dyslexic people, who have to cope with important difficulties with the written language (and with learning foreign languages in general) may find themselves at a disadvantage in the global job market.

2. The contribution of the European project ICTBell

In this perspective, the European project ICTBell - ICT Content Integrated Online Business English Language Learning for Adult Dyslexics - (<http://www.ictbell.org/>) is providing specific contributions. It was founded through the support of the Lifelong Learning Program of the European Commission and addressed the issues of enhancing web accessibility and usability for dyslexics so as to avoid digital and social exclusion.

The project investigated the field of dyslexia and language learning, to the purpose of creating the specially designed Business English Language Learning ICT-based course and a virtual learning environment (VLE) where dyslexic learners can thrive through the integrated e-learning content, virtual learning environment and online tutorage. The project has been designed to the purpose of contributing to improvements in quality and innovation in language learning for adult dyslexics while supporting participants in language learning.

The specific objectives of the ICT bell Project included the transfer of innovative technologies from the ICT sector to the sector of English language learning for adult dyslexics and the development of ICT-based Business English language learning content (online learning services, innovative e-pedagogies). This is expected to encourage the target group to accelerate language skill development to enter the EU market and business environment. The outcomes of the project include ICT integrated Business English language learning electronic content (e-content), the testing of the methodology and online tutoring handbook for trainers, the appointed an open sources based Virtual learning environment (VLE) and the development of a website integrated with a virtual collaborative environment (VCE). The partnership that implemented the project is formed by organizations and experts in the areas of Dyslexia, language learning, European projects and ICT enhanced learning (elearning), operating in five European countries: ONECO, Spain (promoter); Infoart, Bulgaria; English at Work GmbH, Germany; GNW, Hungary; in Italy, TUTOR European Centre for the Development of Advanced Expertise and Liceo Linguistico Internazionale.

During the first phase of the project, the partners investigated the foreign language learning conditions of dyslexics students in tertiary education in each participating country, their views on this topic as well as their foreign language trainers’ point of view. This research was carried out through a questionnaire addressed to both adults that define themselves as dyslexic and those who do not. Analyzing the questionnaire results, it emerges that for dyslexics, the most difficult task is writing, while for non dyslexics, it is the proper use of grammar. The analysis of the results of the learning needs questionnaires for the ICTBell project (reported in the study “Dyslexic Students and the Second Language Learning. A study on the learning needs – European review”) indicates that dyslexics feel



that they do not receive appropriate support in foreign language learning: in particular they referred that they had some useful help in primary school, but they felt abandoned in the following years of education. The results of the survey conducted for the ICTBell project underline that e-learning is considered a valid method of foreign language learning for dyslexics. While non-dyslexics feel that they can learn well from books with more traditional methods which imply the perfect mastery of the processes of reading, for dyslexics this obviously represent a much harder task. Once again we see how much the dyslexic population differs from non-dyslexics as far as learning methods and learning styles are concerned. The questionnaire also aimed to examine the trainer's view on the topic. The trainers' familiarity with dyslexia seems to be rather contingent and was gained primarily through experience. This means that, although dyslexia is quite widespread (and this is confirmed by the fact that the majority of trainers from the five countries had already taught dyslexics students) there is no systematic and effective training regarding learning disabilities in general (and dyslexia in particular). This lack of training has the result that, as the research has shown, most of the trainers do not even understand exactly what kind of problems dyslexic students have to face.

According to the results of this study, the trainers believe that the greatest problems for dyslexic students are understanding written texts, learning new words and using grammar rules, while for dyslexic students, the biggest problem in learning a foreign language is learning new words and the correct pronunciation. Instead, comparing trainers' and students' views of second language usage, we see that they rank difficulties in a similar way, both of them confirming that the greatest difficulty for dyslexics is writing in a foreign language. As far as the preferred learning methods, learning language through personal contact is considered the most efficient method by both trainers and students, but e-learning also appears to be a popular learning tool.

ICTBell project further contributes to the topic with the Business English Language Course "Effective Mediated Business Communication Program", targeted at dyslexics' learning, and the "Trainers Handbook", intended to support teaching to dyslexic students. Both contributions are available on line at the ICTBell project website, together with European and national additional resources about adult dyslexics language learning.

3. The exploitation of the results of the ICTBell project

The results of the ICTBell project are intentioned to foster the production of further ideas, applications and environments, to allow the dyslexics to overcome their 'invisible' digital divide and to give them back their right to fully use the internet.

To such purposes, possible new areas of research and development are encouraged to be further investigated by all interested communities.

Thus regarding, the project realized many specific initiatives to promote the circulation of new ideas of exploitation. Among these initiatives, the project has been presented at the "V Congreso Nacional de Dislexia" organized in Palma de Mallorca, Spain, 5-7 November 2010 and at the 3rd edition of the "ICT for Language Learning" conference, Florence, Italy, 11-12 November 2010.

4. Conclusions

Considering the enormous difficulties dyslexics have to face in our Age of Information we can see how much bigger could be the risk for them to be excluded from the democratic process of e-inclusion indicated by the Riga declaration. From the analysis of the results of the learning needs questionnaires for the ICTBell project emerged that this is encumbered by the lack of a systematic and effective training for teachers and their consequent lack of awareness of the problems dyslexics have to overcome. As far as foreign language learning, the results of the survey underline that for dyslexic



adults, the biggest problem is learning new words and the correct pronunciation, that the most difficult task is writing, and that e-learning is considered a valid method.

Being designed to provide a concrete support to the improvement in quality and innovation in language learning for adult dyslexics, the ICTBell project is making available the many resources, tools and the appositely created Business English Language Learning ICT-based course Course "Effective Mediated Business Communication Program", as further contributions demonstrating how ICT can be applied to promote the social inclusion of the dyslexic disadvantaged part of the population.

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