

# An IT Training Programme for Blind Computer Users

– presentation and discussion of didactic and  
teletutorial implications –

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**Abstract.** The current discussion about the inclusion of people with disabilities into an open labour market is characterised by dominant economic aspects. The unemployment situation of people with disabilities – irrespective of their intellectual level – varies in the different partner countries. The transnational EU LdV Programme IDOL (Inclusion of Disabled in Open Labour Market) aims to open sensibilities and understanding concerning the situation of people with disabilities especially with visual impairment. Its focus is to develop and to implement an IT and psychological training programme for this target group in the different partner countries and in future in all EU countries.

## 1 Introduction

IDOL (Inclusion of Disabled in Open Labour Market) was a LEONARDO EU programme running from October 2003 to March 2006. Project partners working with people with disabilities in education and training from many parts of Europe (Poland, Bulgaria, Spain, England, Ireland, Austria, Germany) were involved in this project.

As a result of the research of unemployment statistics amongst people with disabilities across Europe, IDOL acknowledged that graduates with disabilities have difficulty making the transition from the educational/training environment to employment. Thus, the IDOL project focused on the needs and requirements of blind people and people with mobility limitations who are about to complete their studies or have already graduated and have to prepare themselves for professional life.

The objectives of project partners and outcomes resulted in:

- Increasing the assertiveness and confidence of people with disabilities planning to enter employment so that they are able to maintain their jobs.

- Increasing the professional qualifications of blind people entering employment through the use of assistive technology and computer skills.
- Making physically disabled people aware of the benefits of having a service dog, especially in the work place.
- Improving the image of people with disabilities in employment so that potential employers and partners in the work place realise the positive input this marginalised group can contribute to the workplace

A long-term result of the project is to increase the number of blind and physically disabled people employed in the open labour market as well as to maintain the jobs of those persons.

A special outcome of IDOL is – to discuss at ICCHP – an IT Training Programme for blind people in how to use assistive technology and develop basic computer skills, that will increase their skills and confidence in entering the open labour market.

## 2 IDOL IT Training Programme

The training programme is divided into two parts, Level 1 (EATT) and Level 2 (IDOL). Both levels train students in important IT skills with particular reference to skills needed on the open labour market, like using WORD, E-Mail, databases and spreadsheets.

### 2.1 IT Training Programme Level 1 (EATT)

EATT (Equal Access to Technology Training) is an IT Training Programme for visually impaired computer users that was developed in a former project part funded by the Leonardo da Vinci Programme. The aim of the project is to increase the computer literacy of visually impaired computer users over the age of 35, however the principals of learning new computer skills can be applicable to learners of all ages.

The Introductory IT Course comprises one set of materials for ZoomText users and another for JAWS users. People with a vision impairment in Ireland, the UK, Italy, France and Denmark took part in piloting the first edition of this course.

Correspondently the course is divided into two parts (part 1, part 2) , each consisting of materials for blind users and for low vision students with teachers' and students' materials.

**Part 1** This is the motivating part, the "see what you can do" part. The aim is to show the students that they can communicate using a PC with assistive software despite vision impairment. It deals with the following items:

- Starting and stopping the PC
- Windows

- Assistive software
- E-mail
- Word processing
- The Internet

The students are not expected to be able to master specific topics after each session. Success and motivation are keywords in this part of the course.

Teachers' materials

Teachers' materials for blind students using Jaws screen reader

Teachers' materials for low vision students using ZoomText screen magnifier

Students' materials

Students' materials for blind students using Jaws screen reader

Students' materials for low vision students using ZoomText screen magnifier

**Part 2** This is a more thorough investigation of the assistive software and the PC in general. The aim of Part 2 is to get the students to a point where they can use their assistive software to work on their own and to qualify them for further IT training. Students are required to master the keyboard before taking Part 2 of the course.

Teachers' materials

Teachers' materials for blind students using Jaws screen reader

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Students' materials

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Structure of the Training Programme

IT Training Programme Level 1 is comprised of eight sessions. Each session is planned as follows: 90 minutes work - 15 minutes break - 90 minutes work. The class should meet once a week. It's important that students can revise between sessions either at home or at the training centre. For those students who have access to PCs at home, the software and the PC configuration should be as close to the one used in class as possible.

Whilst EATT focuses on developing basic skills for computer users wanting to gain the necessary skills and confidence to begin using a computer competently, the IDOL IT Training Programme introduces more advanced computer skills to the computer user and encourages transition into the open labour market.

**2.2 IT Training Programme Level 2 (IDOL)**

This Programme is designed to focus primarily on those skills that would be needed in a work environment. Guidelines for students and teachers and in addition Basic Accessibility Settings support the Programme. The training pro-

programme is divided into three distinct sections with inbuilt exercises and assignments for each section. There is also a final assignment that participants should complete in order to receive their Certificate of Completion.

Section 1 deals with Reading PDF Documents with a Screen Reader.

Table of Contents

- 1 What is a PDF Document?
  - 1.1 Why do we use PDF Documents?
  - 1.2 Can a Blind User Read PDF Documents?
- 2 What You Need to Read PDF Documents?
- 3 Installing the Accessible Version of Adobe Acrobat Reader
- 4 Accessing PDF Documents
  - 4.1 Reading and Navigating PDF Documents
  - 4.2 Exercises
  - 4.3 Assignment 1
- 5 Exporting PDF Documents to Text
  - 5.1 Assignment 2
- 6 Printing a PDF Document

Section 2 deals with Using Spreadsheets.

Table of Contents

- 1 What Is a Spreadsheet?
- 2 Applications for Using Spreadsheets
- 3 Microsoft Excel Basics
  - 3.1 Starting Microsoft Excel
  - 3.2 Understanding the Layout
  - 3.3 Navigating within a Spreadsheet
  - 3.4 Assignment 1
  - 3.5 Entering Data in Cells
- 4 Formatting Data
- 5 Making Selections
- 6 Assignment 2
- 7 Using Formulas and Functions
  - 7.1 Formulas
  - 7.2 Functions
- 8 Sorting a Vertical List of Data
- 9 Assignment 3
- 10 Printing and Saving

Section 3 deals with Using Databases.

Table of Contents

- 1 What is a Database?
- 2 Starting MS Access
  - 2.1 Choosing What You Want to Do
- 3 How a Database is Comprised

- 3.1 How a Table is Made up?
- 3.2 Creating a Table
- 3.3 What is a Primary Key?
- 3.4 Navigating and Switching Views
- 3.5 Assignment 1
- 3.6 Assignment 2
- 4 Forms
  - 4.1 Creating a Form
  - 4.2 The Form Wizard
  - 4.3 Navigating in the Form
  - 4.4 Assignment 3
- 5 Queries
  - 5.1 What is a Query?
  - 5.2 Creating a Simple Query
  - 5.3 Assignment 4

The IT Training Programme Level 2 is delivered online and includes an online learning environment. A Mailing List allows students to communicate with both teachers and fellow students in a supportive learning environment. A specialized teletutor is to answer more detailed questions and to support the learning process. The teletutor is working at the regional Training Centre and communicates with participants via net.

#### Structure of the Training Programme

Duration of Level 2 is calculated at approximately 12 hours. The process is dependent on the individual initiative and IT competency of each participant. After finishing the course effectually the trainee will receive the "IDOL Certificate", acknowledging their successful participation in the programme.

### **2.3 Additional Materials**

As an additional help both for trainees and for trainers, IT Training Programme offers a complete list of keyboard shortcuts for the most applications trained through EATT and IDOL training programmes. All keyboard shortcuts for the MS Office applications relate to the Office version 2000. The reason for this choice is that the Screen Reader JAWS continues to have the best support for this Office version. Because there are many users of the Screen Reader Window-Eyes in the partner country Poland, it was decided to include also a list of the most important Window-Eyes shortcut keys.

### **2.4 Training Centres**

All IDOL IT training materials are online and free for use. Disability support centres and job exchange bureaus in Poland, Bulgaria and other partner countries are encouraged to use these deliverables to organize computer courses. Courses will be offered in following training centres:

**Austria** Johannes Kepler University, Linz  
**Bulgaria** MARIE-CURIE ASSOCIATION, Plovdiv; EUROINFORM, Sofia  
**England** Roehampton University, London  
**Germany** Universität Karlsruhe (TH), Karlsruhe  
**Ireland** University College Cork, Cork  
**Poland** Jagiellonian University, Krakow; University of Silesia, Katowice;  
 Nicolaus Copernicus University, Torun

Discussions among the different partners led to the result, that besides electronic versions of the IT Training, a CD-ROM was produced with programmes in all partner languages. This fits with clients, who have no internet connection.

## 2.5 Didactic and teletutorial network

During the three year programme process it was only possible to develop the different programme materials and to evaluate them, but it was not possible to build up a comprehensive didactic and electronic learning surrounding. The following graphic underlines the interaction between trainer/teletutor, trainees and the internet platform/CD.

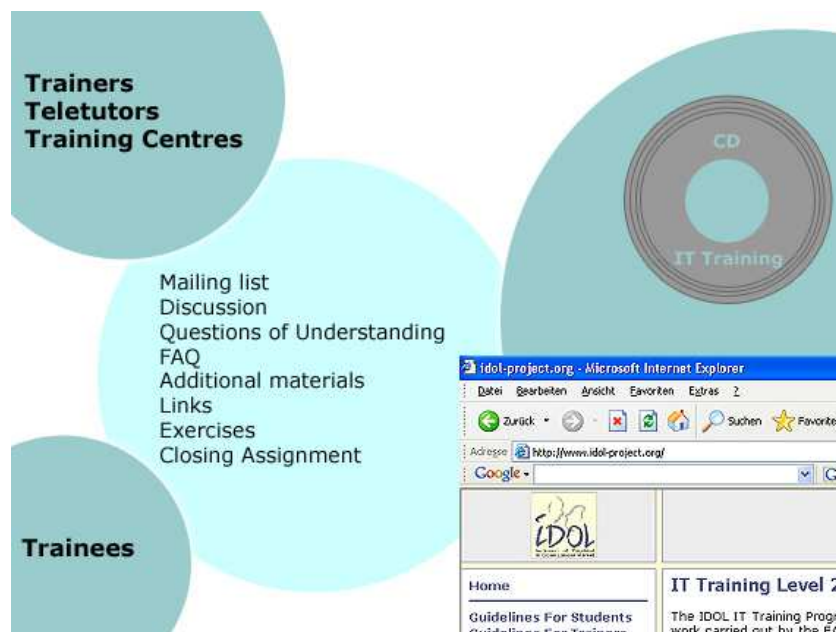


Fig. 1. Network between trainer, trainee and learning platform

## **2.6 Future steps**

Like all EU Programmes the IDOL project is oriented on sustainability and focuses on building up networks within future training centres. Starting with the centres above all countries are invited to join IDOL and to act with the training centres. A special service will be offered in the near future by developing a training programme for teletutors. Based on the teachers' materials the Study Centre for Open and Distance Learning at the Universitaet Karlsruhe (TH), which has a long experience in media based learning process, will be prepared to include this competence into the realization of the Teletutorial Training Programme. This Programme will be available to all training centres.

## **3 Conclusion**

The current discussion about the inclusion of people with disabilities into an open labour market is characterised by dominant economic aspects. The focus of IDOL on IT and psychological training programmes for this target group is a highly valuable input. Concerning the use of the results and looking for sustainability it will be important to include the training into regional and national programmes. The testing activities evidence the correspondent need.

The unemployment situation of people with disabilities – irrespective of their intellectual level – varies in the different partner countries. The transnational work opened sensibilities and understanding from one to another and was an important input to a common training programme. On the other hand the national partners functioned as transmitter into the national situation. Experts from the partner countries made contact with each other. Therefore the IDOL project can be considered as a contribution to an European partnership and integration.