RAVT

Real and Virtual Textures
Texture Reale e Virtuale
Realna i wirtualna przestrzeń
Reālā un virtuālā komunikācija

edited by Maria Antonietta Sansalone

Education and Culture

Socrates
Grundtvig

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INTRODUCTION

When training transforms itself into good practice
by Vito La Fata

RAVT (real and virtual texture) is a project that was carried out between 2005 and 2007 in four European countries. The project was aimed at teachers, workers and managers of organisations from these four very contrasting geographical, social and cultural contexts: Italy, Latvia, Poland, and the UK.

The objective forseen was that of developing a training model that can be applicable in all European countries.

RAVT was born from a growing awareness of the existence of a gap between the need for the effective application of the principles of integration, active citizenship and solidarity adopted by the European Union and the different approaches towards disability, and in particular towards adults with disability.

This volume comes from a mixture of approaches developed during the international meetings of the project in Palermo (Italy), Rzeznow (Polond), Manchester (Great Britain), Tukums (Latvia); it wishes to permit the further development of a challenging and complex, but real and attainable, task: the dissemination of a tested didactic model, which can bring solutions to issues related to the term *digitally divided*. It adopts new opportunities available for people with disabilities working in telework. These possibilities originate from the positive relationship existing between new generation information technologies and data transmission methods, resulting in new sychronised and asychronised communication models, which are necessary for distanced work adapted for people with disabilities and, simultaneously, their social integration.

The works of Maria Antonietta Sansalone (didatic coordinator of the project), Małgorzata Mikłosz (trainer and manager for the Polish partner organisation), Helen Fairweather (trainer for the English partner organisation) and Adam Hill (ICT coordinator) are gathered together in this volume.

Each work holds as it's aim the obtainment of one of the objectives of the project: the development of both personal and professional awareness for workers, trainers and managers who work in the field of telework, disability and ICT who could adopt new interactive and intergrational training models.

The realisation of the project was made possible thanks to the economic support of the European Commission, and it is with much satisfaction that we offer you this volume of works which collect some of the vital moments of this experience.

We would like to remember and thank all the individuals and public and private bodies who played a part in the development of this project.

FIRST CHAPTER

Welcome to Real and Virtual Textures
by Maria Antonietta Sansalone

RAVT (real and virtual texture) is aimed at educators, workers and association managers in four different geographical, cultural and social contexts; Italy, Latvia, Poland and the UK. We are developing a training model which is applicable to everybody in the EU countries. [read more..]

About Real and Virtual Textures

RAVT (real and virtual texture) is aimed at educators, workers and association managers in four different geographical, cultural and social contexts; Italy, Latvia, Poland and the UK. We are developing a training model which is applicable to everybody in the EU countries.

RAVT takes inspiration from the existence of opposite points of view between the needs for real application of E.U principles (active citizenship, integration and subsidiarity) and the different approaches to general disability and in particular to adult disability. In fact political-legal, social and training approaches of Member Countries are far from one integrated model and there is a widespread difficulty to cope with the needs of adult disabled people in this European society - moving more and more towards a cognitive and technological economy.

The RAVT training system, using the blended e-learning approach, takes ICT and multimedia as tools to cope with social isolation and marginalization of disabled people opening up the possibility to improve their quality of life.

This project aims to promote pedagogical open dialogue, continuous and open confrontation to learning (in a

reticular point of view) social, pedagogical and ethical skills about adult disability and ICT in European context.

RAVT is designed for professionals in training (managers of association and institutions, trainers and educational staff, from the four partner countries and which are working with adult disable people).

For these professions, today it is demanded not only to contribute to the implementation of the rights in relation to equal opportunities, but, also and especially, an action to support the integration of disabled people inside social and productive systems.

Aims and Objectives

AIMS:
- To activate processes of professional innovation to favour the social inclusion, the active citizenship and the participation in the democratic process of disabled people
- To promote the collaboration between different professions with a collaborative and cooperative dimension, mediated by computer
- To support methodological and structural innovation of education and training in person and at distance
- To make the learner able to access training processes based on the production of tools, models and actions mediated by ICT and able to reduce handicap and to promote the disabled
- To take individual and professional awareness, intended to change the behaviours and manage interactive educative-teaching models

OBJECTIVES:
- Acquisition of knowledge and ability regarding Information Communication Technologies

- Acquisition of awareness about the components in the relationship between learning/teaching in presence and at distance
- Development of elaborate instruments in relation with the importance of the contents and to the relational cognitive styles of the subject
- Development of decisional and planning abilities, propagation, comparison and management of the teaching/educative action, of evaluation and evaluation of oneself, also mediated by technological and telematics infrastructure
- Development of abilities and processes to self train using the internet, and supported by a tutor
- Acquisition of competences for the support and the monitoring of learning inside a virtual class-room, forum and other forms of communication/learning mediated by telematic architecture

Partners

The RAVT project is made up from a range of partners with different skills and resources working together. To find out more just click on the partners names below or on the menu to the left.

CE.S.I.E.

CE.S.I.E is a non-profit organisation that has a large experience in international cooperation projects particularly as manager organisation. It works with the Youth Programme (action 1, 2 and 5), EuroMed Programme, Leonardo da Vinci Programme and Socrates Programme. The main areas of intervention are: fight against racism (ethnic, religious, sexual, physical, etc.), active citizenship and democracy, conflict resolution and non-violence, integration of disabled persons, professional training, etc. The association has competence in intercultural methodologies, ICT, maieutic

process, conflict resolution, training and integration of people with disability. CE.S.I.E is also a university association recognised by the University of Palermo.

CE.S.I.E's staff includes 8 members and 120 volunteers collaborating with the association. Since some years the institution works in the disability sector particularly in which concerns to the integration and participation of disabled youngsters in local and international projects (youth exchanges and training courses). Besides the experience of the institution some of its members have specific competences in the area of adult disability that they acquired working in public institutions (for example the University of Palermo).

Centro per lo Sviluppo Creativo Danilo Dolci

In a non-profit organisation that exists since at least ten years made by young and adult people which works above all in the field of several levels education.

The association was born thanks to the experience of social and educational work of Danilo Dolci and his collaborators, started in west Sicily since the '50s.

Through non violent fights and demonstrations, involving thousands of people, it was possible to create good conditions for a real change and development of the territory with regard to the local culture.

Concrete results of these fights are still visible in practical works (the dam of the Jato river, the Experimental Educational Centre of Mirto, many cooperative societies, the International Centre of Education of Trappeto), results that many Sicilian people that took part in these experiences have still in mind.

The organisation has also a youth department with 50 people associated who are involved in all the decisions and activities of the organization.

In details the association activities are: work in groups for cultural, social and civil promotion; education about

peace, conflicts resolution, work against mafia through non violence methods; give answers to the needs of the population for territorial development beginning from the human beings; use "mutual maieutic structure" between young people, between young and adults, between school and territory to make easier their relationships; promote innovative processes in the civil society and public school, through workshops, seminars, having as reference point Danilo Dolci's experience, the work of the Studies and Initiative Centre, and above all the activities about the birth and development of the "Educational Centre of Mirto"; develop educational courses about the maieutic structure that can bring to the creation of new educators and trainers; help in the integration of disabled people.

Danmar Computers

Danmar Computers is training and consulting company located in Rzeszow, Poland. We specialize in providing ICT related services to private enterprises, self-government institutions, non-governmental institutions, universities and schools.

All projects are designed to realize the main objective, which is to develop and strengthen the society of information. In order to reach its objectives, Danmar Computers carries out educational situation research, consultations, development of study programs and training materials, training, implementing ICT systems, developing e-solutions (e-learning, e-business, e-commerce), definition of standards in ICT field. Work of Danmar Computers is based on well organized cooperation system with NGOs, training and guidance institutions, local self-government, universities and schools.

e2000 International

e2000 is a social enterprise in the United Kingdom that works at world wide level for the development of the democracy and the promotion of an active social participation of young people throughout the new technologies. Since October 1999 when e2000 starts to exist it has developed projects for young people in more than 32 countries, from Europe to Latin America, Asia and Africa, working also with youth adults with disability.

e2000 staff includes 3 full-time youth workers and 1 part-time developer, supported by a network composed by more than 30 volunteers that counsel, work and learn inside the organisation and its projects. The competence of e2000 in this working camp is that of develop and use new communication tools, like radio, internet and development of new software to use in the associations' projects at local, regional and international level since 2000.

At local level in the north-east of United Kingdom the organisation has developed an interactive web portal for young people. The aim of this web site is to involve the youngsters in debates and projects in the community. The portal includes also an internet radio and web-cam initiatives that had involved young with disability in more than 20 countries. In the last transnational project has been developed an intranet system that permitted to a network of 7 international NGO organisations to plan, realise and value European youth projects; to share information and good practices and develop new ideas. In all its projects e2000 has assumed the manager role and of software designer.

Toucan Europe

Toucan is a non-profit organisation that works in the area of research and development, providing technical

assistance, management and training and development for organisations within the European Union and in the countries in development. The focus of activities is work with people experiencing social exclusion. Providing innovative actions and developments that offer opportunities for economic and social integration.

Toucan was established in Manchester in 1994, and registered as a Non-Profit limited company with educational purposes for the benefit of the community.

Toucan's main office is in Manchester, England, with services being developed in Wales from our office in Swansea, and European developments from our Brussels office.

Managing: Toucan also provides specific and practical support with all aspects of national and International project work in the area of education and training, research and technological development, and training and development activities of the non governmental sector.

Training: Toucan is also active in the training of staff for national and trans-national projects. The workshops offered in these areas are designed to inform participants on the needs and requirements of all aspects of project development and management and can be tailored to meet individual and organisational requirements.

Toucan has considerable experience in access and requirements for education and social education of young people, vocational training and employment of disabled people. They work closely with education, social and health care services, and voluntary organisations in this field at a national and international level.

Public Agency of Tukums Region Social Assistence Coordination Centre

The main activities are: technical assistance for disabled persons, rehabilitation service, rehabilitation for the diabetics, psychological counselling to children and

adults that are victims of violence, social assistance to blind and deaf persons, support groups for adoptive families and disabled women, administration of the social assistence income, coordinate the work of the district of Tukums (social protection system, organisation and development of the social assistance system, collaboration with NGO and others, organisation of training courses for social workers and NGO, work of volunteers, European programmes, information to the community about the social services, information to young people about opportunities).

The staff is composed of 13 full-time and 1 part-time workers. The volunteers are more than one hundred.

The association organised diverse projects in the area of the current project: organisation of the project "Computer Open Mind" supported by the Soros Foundation (1999). The main objective was to educate disabled persons that can't move from home in the use of computer. Organisation of actions in the area of the international voluntary service for disabled persons. The aim of this project is to involve disabled youngsters in the European projects for youth. Organisation of summer camps of training and recreation for diabetics and disabled (in collaboration with Tukums Town, Region Diabetes Association and Tukums Disabled Persons Sport Club).

Training Course

The aim is to give trainers and managers abilities to train them to get ICT competences in order to create tele-working opportunities. Those who attend will teach those with disabilities to use the technology to create their own job. The point of this training course is that it is based on three modules which are very important for someone who has disabilities to use ICT for their work.

This is training for trainers who will work with the target group, and not for the target group directly. The training

course is also designed for those who already have a basic understanding of ICT (e-mail, word etc.).

The three modules of the training course are:
1. The Multi-media of the web
2. Hardware and software for disabled people
3. Co-operative learning – How to learn remotely together

The Common Framework
Each organisation involved in the project is working from the following Common Framework:

Module 1 – Accessibility and multi-media for the web

1.1 Analysis on structures and Web languages (iconic, graphic, sound, musical)
1.2 Means, methods of use; critical analysis on the linguistic-structures of Web
1.3 Presentation and application of the e-learning platform
1.4 Using the e-learning platform

Module 2 - Hardware and software for disabled people

2.1 The relationship between ICT and disability
2.2 Analysis of practical case studies
2.3 How to use the e-learning platform
2.4 Administration of the e-learning platform

Module 3 - Co-operative learning and Teleworking

3.1 Tele-working through co-operative and collaborative working

SECOND CHAPTER

TELEWORK AND DISABILITY
by Maria Antonietta Sansalone

In the complex post-modern world in which we live the development of information technology and data transmissions, together with a social and economic evolution, the globalisation of the market and the shift into tertiary work, have brought about notable changes in the way we live, our relations with each other and, above all, in the types of work that we do, and when and where we do them.

All this have given way to a new form of flexible management organisation in the field of production. Human resources is managed differently in order to respond to the needs of both the worker and the employer whilst holding in consideration the principle of efficiency in production systems and the valorisation of human resources.

From this point of view, "flexiwork" (flexible working) means adapting and adjusting so as to respond to economic transformations and the demands of the work market. Everything depends on the unpredictability of these same markets, the need for new productions at low cost and the shift to tertiary work, which are interlinked with the well being of the worker. One also needs to take into consideration social and cultural factors, organisational aspects present in entrepreneurship, the opportunities offered by telework and European indicators regarding flexiwork.

Telework is one of the many forms of flexiwork. From a conceptual point of view telework cannot be assimilated to traditional home working and employs information technology and data transmissions in order to overcome the unusual physical location of the worker (the office is

traditionally considered to be the location of work) and geography (it is possible for a worker to use information technology and data transmission in order to work from any location, if these means are available to the teleworker).

In 1973, the American scientist Jack Nilles, director of interdisciplinary research at the University of South California and known in the United States as the "father of telework", defined the different forms of distance working as:

- Telecommuting: a model wherein the work changes in relation to the geographical location in which the work is carried out, but the working method remains the same.
- Telework: a model wherein the working location is out of the office and working methods change such as communications, relationships between resources, functions and competences. It uses new communication and information technologies in order to adapt to the working situation and the structure.

To define telework is not easy due to the multiplicity of forms it can take on and the different types of work and organisational methods that can be employed. To clarify the term we can use the definition provided by the European Foundation in Dublin in which telework represents "every form of work carried out for an employer or client by a dependent, autonomous or home- worker, that is regularly carried out or, for a consistent amount of time is carried out, in one or more locations different from the traditional place of work and using information technologies and/or data transmission.

Telework, under this definition, lends itself to the production and/or elaboration of data, of information etc, through the use of ICT and is found as a work

organisational method predominantly in the advanced tertiary sector. Through telework it is possible to outline the work to do, organise work distribution in a network, coordinate at a distance, and control and evaluate the results of the activities and the procedures employed in the working methods.

The factors involved in the diversity of telework can be technological, organisational and socio-cultural[1].

The working models of telework, conditioned by technological factors, are the following:

- **Telework** *off line:* data elaboration without centralised connections and the use of traditional supports: sending of materials in paper and/or digitalised formats (floppy, CDRom, DVD etc) received by post.
- **Telework** *one way:* connections through video terminals and data elaboration through the use of specific software, predefined by the employee.
- . **Telework** *on line:* connected through internet or intranet which enables interaction in real time between the worker and the employer and that promote a better integration of the work itself.

The working models of telework, conditioned by organisational factors, are the following:

- **Telelavoro at home**, (regulated by **d.p.r. 8 March 1999, n. 70)** with the characteristic of a high level of autonomy and the necessity of effective communication with the representatives of the employing company or clients; the necessity of contract and a definition of the contents, time

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[1] Blainpain, R., The Legal and Contractual Situation of Teleworkers in the Member States of the European Union, Dublino, European Fondation, 1995, p. 8-9.

and methods of workThis form of work is usually used by autonomous or free professionals (for ex. journalists, consultants, system analysts etc.) and by dependent workers, who possess qualifications of diverse levels. The limits of this regard the difficulty in supervising the work carried out and the relationship between the worker's autonomy and his or her adaptation to the objectives of the employer. The possible solutions are to ensure the action is orientated towards the expected result and a high frequency of communication;

- **Telework in satellite offices** geographically distanced from the central office, where costs are less. This is employed to structure the work and to expand the company into areas in relation to market growth. It also avoids the daily commute of employees to the central office;

- **Telework in telecentre**, this form of distance working means the permanent and/or temporary use of work centres by workers who temporarily or daily use the technologies available in the above centres, these individuals are usually company employees, free professionals etc. The worker, instead of using the company space, works in a centre adapted to telework near his or her home or near to where the company has been temporarily transferred.

The telecentre can be for one company or for a consortium of companies, and can hire out spaces to individual workers or to public administration. Alternatively the place can be used by individuals coming from different working realities or companies, who all have the need to work in a structure adapted for distance work. In addition a telecentre can offer different types of services connected to the needs of companies such as

meeting and conference rooms, access to video-communication systems, specialised library, information centre, break room etc.

- **Telecompany** or distance company or a company which provides services at a distance, employing human resources that work in the exact locality and technologies necessary to ensure the connection between the various work stations.
- The **socio-cultural** factors connected to telework can be defined as: positive effects on the social system and the collective society, less traffic congestions, less investment in structures and public transport infrastructures, higher territorial valorisation for ex. of rural and depressed areas.

In the field of telework, the teleworker operates in a technological system which, overcoming spatial and temporal limits and face-to-face contact, permits him or her to work through the employment of various instruments:

- Software for information and data elaboration;
- Archiving appliances: hard-disk, compact disk, optic memories etc;
- Appliances for data transmission communications;
- Interaction supports: platforms dedicated to synchronised and asychronised communications;

These technological and communication support appliances permit linking between different work stations and between these stations and the central office. In addition mobile teleworking and homeworking gather information and materials.

In the table (1A) [2], below, it is possible to note how telework can offer a variety of unusual opportunities with respect to the productivity, efficiency, organisation and working flexibility: more freedom in work, rhythms according to the needs and particularities of the worker, increased free time, elimination or reduction in the commuting time, increased presence of the worker in family life. In addition there is the reduction in costs linked to delocalisation and the investment in information systems, telecommunications and training.

In addition to the advantages there are also negative factors, for example the isolation of the teleworker due to their distance from the central office and other workers, working methods which, if not fully compensated through social aspects, can cause an increase in the sense of alienation, a loss of the exchange, experience and activities which occur in a working environment, through professional and human relations.

The level of development of telework regarding its diffusion still does not respond to the expectations in both European and international fields. Restricting factors include the difficulty in using telework for certain products and that traditional working organisational methods are still common.

Tab. A   *Benefici e rischi implicati dal telelavoro*

	Benefits	Risks
Organisations	Cost saving – management, structures, furnishings etc; Increase in productive capacity; Application of different work contracts.	Fear of loss of direct control; Relationship problems between organisation unions and workers; Loss of a sense of belonging to a company and decrease in motivation and productivity of workers; Added costs of reorganisation; Training for requalification of employees; Less security for the data privacy.
Individuals	Reduction in mobility costs; Reduction in stress caused by time spent commuting; Self-regulation of working activities throughout the day-better management of working and living time; Employment opportunity for people who have difficulties shifting to work place; Possibility to give space to forms of work	Increase in precarious and uncontrolled work; Loss of management and planning; Increase in tiredness and stress; Health risks for workers; Reduction in visibility of company strategies, contractual strength and career possibilities for individual; Loss of "on the job" learning and professional training in the company;

	cooperatives; Strengthening of relationship with community in which individual lives.	Crisis of family life equilibrium (in the case of home teleworking)
Collective	Reduction in mobility caused by commuting, thus decreasing congestion and urban pollution; Development in economically depressed areas; Employment opportunities for socially disadvantaged groups; Creation of new services and increase in quality; Reduction in the divide between rich and poor regions; New opportunities in harmony with agriculture and tourism.	Increase in precarious and black market jobs; Dispersion of workforce; Reduction in active union participation; Exclusion of certain workers from social dialogue; Transfer of repetitive and poorly qualified jobs to the peripheral regions of the world job market.

Telework and disability: opportunities and perspectives
Telework has been experimented successfully by companies and the Italian State for some time with various incentives in order to promote it, yet, the many ways in which it can be applied, the principles behind it, the research possibilities it offers regarding the worker and the use of services, in particular in the world of the disabled worker, are still not known.

There is, however, incontrovertible evidence that there are important passes to make regarding different forms of disability and telework. Telework can offer new opportunities to disabled people in the world of work through the elimination of structural and mental barriers, tiring and difficult commutes, spatial and temporal flexibility and adaptation to the needs of each individual. This ensures that a disabled worker has the opportunity to demonstrate and use his or her potential and his or professional competences, making them active and accessible resources for society.

The potential of telework in relation to the introduction and integration of people with physical and cognitive disabilities into the world of work with respect to traditional working methods means that this field will be of interest to a significant percentage of the population. One European citizen out of ten is disabled: roughly 12% of the population of Europe suffers from a form of disability, and between 6 and 8% of people with disabilities are less than 60 yrs old. A relevant part of this group is working aged, yet the rates of employment are much lower in comparison to the rest of the population[2]. If we want to find the underlying causes of this phenomenon there are numerous barriers which make the entry of people with disabilities into the world of work difficult, these barriers can also be linked to their exclusion from social fields as well. Some barriers are due to physical impediment, relative to the type of disability, or are due to general tendencies which mean that their needs are considered secondary and issues are resolved by assistance instead of adaptation.

The working environments are consistently inadequate for welcoming people with disabilities: offices lacking in space or appropriate access in order to facilitate wheel chairs; spaces which cause problems for people with respiratory problems or multiple sclerosis; working hours and rhythms

which do not meet the needs of disabled individuals, who may not be able to follow a traditional working routine.

Telework can be resource for all those who, afflicted with a disability yet owning competences or the ability to acquire them, find it difficult to adapt to traditional work methods and routines. Telework does not require specific physical abilities and uses advanced technologies which permit the adaptation to meet the needs of all disabilities thus offering to disabled individuals the possibility to work in a context suitable to their needs and competences.

If, through work, one feels part of a productive system and can find individual self realisation and become an active member of society, we cannot deny disabled adults their right to be present in the world of work, and to do and to realise. Considering that no form of assistance is needed in satisfying this need, then work can be realised as a right.

There are many benefits for disabled teleworkers regarding their role as a worker and the valorisation of people with disabilities in the eyes of society.

The advantages of telework for people with disabilities:
- Access to training, knowledge and the world of work;
- Possibility to operate in a structured space which can respond to personal needs caused by a handicap;
- Flexible organisation of working rhythms and the activities to be carried out;
- Use of appropriate appliances;
- Professional mobility;
- Attention of the employer is focussed on the work carried out and not the disability;
- Overcoming the different forms of social isolation and exclusion;
- Realising the notion of equal opportunities;

Telework permits the possibility to adapt the needs of disable workers thus permitting them to overcome the

barriers to mobility. Mobility is often a problem for people with disabilities even outside of the notion of commuting, and changing job is often difficult due to the software and hardware support needed.

Problematic issues regarding telework include the exclusion of the disabled person who working in a protected environment is distanced from human contact. However telework, if well organised in accordance with the individual needs of the worker, can reduce isolation. Modern technologies permit the creation of virtual social relations and consent close work with the working group.

Thus situations of social exclusion can be overcome therefore increasing self-esteem. The work in itself represents for people with disabilities a significant part of their social life, giving them the strength to overcome gradual worsening of an illness, and, therefore, beating the potential inability to work. To avoid isolating situations it is important to accompany the use of technologies with a social life: education, training, fun, use of free time etc.

In addition to the advantages presented to disabled workers through telework there are also advantages for collective society: the new work force contributes to the national revenues; reduces latent and declared unemployment, it expands the market of services and products for disabled people based on ICT; the competences of individuals are not wasted; on a social level the reduction of physical and organisational barriers which limit the right to work and social integration of people with disabilities.

Obstacles to the full realisation of telework for people with disabilities can be described as the following:

1. Formative and informative obstacles:
- Poor awareness of the actual opportunities offered by telework by companies and public and private bodies

regarding the integration[3] of disabled people and productivity;
- Lack of awareness of new hardware and software systems, costs and the problems of commuting.

1. Obstacles caused by stereotypes and prejudices:
- Belief that people with disabilities are not productive;
- Training of people with disabilities is believed to be inefficient;
- Belief that people with disabilities need assistance;
- People with disabilities present a cultural difficulty regarding work flexibility and regarding telework;
- Little knowledge of other languages means lack of opening in the European job market.

Conclusions
European politics have looked at the issue of disability primarily from the point of view of welfare and assistance. The new approach due to the evolution of the job market to the problem of social and work integration concerns the exclusion and discrimination based on disability. With this perspective in mind the European Commission published a Working Paper[4] with guidelines and indications on the relationship between employment and disability and the objectives to be reached in the next few years. Departing from this point a debate has grown regarding this issue in

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[3] "Telelavoro e disabili", (www.eto.org.uk) estratto dallo studio su Telelavoro, Telecommercio e Reti elettroniche aperte, da Management Technology Associates, United Kingdom ,1992-1993,.

[4] Commission Staff Working Paper, Raising Employment Levels of People with Disabilities. The Common Challenge, Brussels, 22.09.1998

various European nations and the issue surrounding health and safety at work.

Some Governments have foreseen the provision of incentives for disabled people who want to work. In Italy the law no. 68 of 12th March 1999 replaced previous laws regarding job placements for people with disabilities. This law foresees the employment of people with disabilities from their residence in the form of telework. At this point this type of integration into the working world is favourably considered. Regions in Italy have arranged for incentives for companies and public and private entities however telework has not taken off due to cultural and social factors.

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THIRD CHAPTER

ITC and disability
by Małgorzata Mikłosz

According to the definition, disability is a long-term state in which there are some limitations in proper functioning of human being. Those limitations can be caused by lowering of functionality of physical and psychological functions. It is also a defect which can be psychological, physiological or anatomical of organism structure. The damage can be full, partial, permanent or temporary, inborn or acquired, stable or progressive.

Disability is one of the most important problems of contemporary world because of popularity of this phenomenon. Additionally, physical disability is usually linked with so-called social disability, which means inability of fully functioning in the society. Nowadays, disabled persons are supported by innovative technologies. Development of Information and Communication Technologies (ICT) enables disabled persons to do many activities that were not possible before. Thank to ICT, handicapped persons can study and work. They can fully participate in social life. New technologies caused a revolution in disabled people's world.

The support of new technologies for persons with serious speech, hearing or seeing dysfunctions, with movement problems and other kinds of disabilities is huge. Carefully and individually chosen, proper software and equipment for the disabled person can be a great tool of therapy, education, communication and in the future also a tool for doing useful job, deepening knowledge, development of interests, spending of more interesting time. All of that is connected with the feeling of

independence of disabled person. A multifunctional possibility of computer in education and therapy is its undeniable characteristic.

Blind persons or persons that can't see well can take almost full advantage of computers, but by using different methods. Thank to special software for reading the screen (screen reader), speech synthesizers, magnifying software and other tools, disabled persons can use operating system, office applications, Internet applications and many more.

Below, there are some of equipment and software solutions for disabled persons regarding monitor, keyboard and Mouse. There are many more of those solutions, but those presented below, belong to the most popular ones.

Monitors

Numerous solutions regarding monitors help disabled persons (those who are blind or cannot see well) to use computers. These solutions are: magnifiers, screen readers, programs and equipment for speech synthesis and Brail rulers.

Magnifiers are programs that enlarge the content of the

screen. Simple magnifier appeared in Windows 98. It has big possibilities of adjustments to the users needs.

It is possible to change its position and scale of enlargement. Magnifier us located in *Accessories*, *Accessibility Settings* folder[5]. It has to be installed first[6].

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[5] To launch Magnifier, please click on Start > All Programs > Accessories > Accessibility > Magnifier

Persons that are blind or cannot see well can use the computer with the help of screen readers, which read the content of computer screen and transfer it to the speech synthesizer or Brail monitor. Synthesizers of speech change the editable text to artificial speech[7]. They can be divided on equipment and software synthesizers. The difference between them is that the first ones use their own speech processor and the second ones use the computer processor. Hardware synthesizers can work with computers and other hardware equipped in serial port, for example some writing machines. The simplest programs for speech synthesis let to read the text and usually don't work with external programs. Examples of such synthesizers are SynTalk and ReadPlease 2003.

Brail's rulers are also called Brail's monitors. They transform text and graphic information on the screen into signs of Brail's alphabet. They are irreplaceable when speech synthesizer cannot help: when reading music notes, mathematical signs, multilingual tests or programming languages notations. The main difference between particular Brail's monitors models is expressed in the number of Brail's modules. Usually there are from 20 to 80. The more module, the work is better and more convenient.

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[6] To configure Windows for your vision, hearing and mobility needs, please click on Start > All Programs > Accessories > Accessibility > Accessibility Wizard and then follow its instructions.

[7] To launch Narrator, make sure that your sound is turned on and then please click on Start > All Programs > Accessories > Accessibility > Narrator. Please note that Narrator is not available in all languages.

Keyboards

A common keyboard can be easily transformed to be more users friendly. It can be done with the help of *Accessibility Options*. On the *Keyboard* tab there is a function which makes CTRL, ALT and SHIFT keys active until pressing another key[8]. It eliminates the necessity of pressing two keys at the same time. Another function is the possibility of ignoring accidental or repeatable pressing of keys[9]. It is also possible to set the time of reaction on pressing.

When program keyboards are not sufficient, some other keyboards can be used: ergonomic, alternative or virtual keyboard.

Ergonomic keyboards allow for more natural placement of hands during writing. They have big possibilities of regulation and some of them can be good and rather cheap and easily accessible for people with slight movement limitations.

Alternative keyboards are dedicated for persons having trouble with precise movements and coordination of visual and motor functions or opposite – for persons that can do very precise but small movements. Some of those alternative keyboards don't differ much from common keyboards. They have bigger keys and some keys don't

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[8] To activate this function, please click on Start > Control Panel > Accessibility Options > Accessibility Options. Accessibility Options dialog box is now opened. Click on Keyboard tab and then click to put a check in the box next to "Use StickyKeys" and then click on Apply and OK.

[9] Same as before to open the Accessibility Options dialog box. Click on Keyboard tab and then click to put a check in the box next to "Use FilterKeys" and then click on Apply and OK.

exist. They are replaced with boards with printed keys. An example of such alternative keyboard is INTELLIKEYS. It is mobile keyboard with interchangeable boards, from the simplest that have four arrows, through alphabetic or digital board; to bard that has possibility of using function commands. This keyboard doesn't have keys, it is flat. Each touch of the keyboard is signalled with a sound. This makes sit easier for children with visual perception dysfunctions.

Very good software solutions are virtual keyboards, which are displayed on the screen. Their functioning is similar to the regular keyboard. The only difference is that the keys are pressed with the help of a mouse, joystick or other pointing device. It is possible to use only one key if the keyboards are equipped with scanner. Simple virtual keyboard is a part of accessibility functions for disabled persons in Windows Me/2000/XP[10].

Mouse

Mouse is not necessary for using the computer. All actions connected with its usage can be performed with the use of keyboard. A keyboard is sufficient for most of the programs. With its help, the Mouse pointer can be moved on the screen. This option was available in Windows 95 through *MouseKeys* in *Accessibility Options*[11]. There is a tab called Mouse on which this function can be turned on. Moving of a pointer can be done with the help of narrows on numeric keyboard. The

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[10] To launch On-Screen Keyboard, please click on Start > All Programs > Accessories > Accessibility > On-Screen Keyboard.

[11] To activate this function, please click on Start > Control Panel > Accessibility Options > Accessibility Options. Accessibility Options dialog box is now opened. Click on Mouse tab and then click to put a check in the box next to "Use MouseKeys" and then click on Apply and OK.

alternative for the function *MouseKeys* can be free program Mouse Emulator.

Many people get used to a mouse. One of the most popular and easy accessible alternatives of mouse is Trackball.

 It reminds of a mouse that is lying up side down. The ball usually has about 3 cm in diameter and at least two keys. Such solutions is not a good alternative for a big part of disabled persons – moving a small ball of the trackball is usually more difficult than mowing whole mouse. There are also tools projected with the view of disabled users such us Roller Plus Trackball. Very effective are also trackballs for children. They usually have bigger ball, for example BIGtrack.

Some people prefer to use a joystick instead of a mouse. It is especially true for children and beginners. It is also natural for any person on an electrical wheel chair who uses joystick to direct the wheel chair. Unfortunately, Windows doesn't have a driver which would help in using this tool as mouse. It is necessary to use solutions of other producers. Joystick is a great base for building tools that direct the pointer in unconventional way, for example by movements of head, leg, etc.

 The other alternative of a mouse is computer head-on Mouse, which is dedicated to persons having problems with moving hands.

In order to use it is enough to move head and ability to inhale and exhale the air through the mouthpiece.

As it was mentioned before, there are many more ICT solutions that help disabled persons in their lives. Thank to them, even persons with heavy disabilities are able to communicate, study and in general to participate in social life. The classic example in this area is Stephen Hawking, who was a doctorate in Cambridge, when he was diagnosed with heavy motor neuron disease causing gradual disappearance of movement and speaking abilities. Today, he communicates with the world via PC with monitor. It is installed in his wheel chair. But there is no mouse or keyboard because professor Hawking is not able to use them. All commands are done by special push button which is held in his hand. He uses Equalizer™, program, which shows the words on the screen and lets to choose the proper ones. After the When the sentence is built it can be said by separate speech synthesizer. The whole system is connected to the

Internet by cell phone. One could think that the degree of disability of professor Hawking makes his public, social and science life impossible. But he is one of the most remarkable Physicists in the world. He is laureate of many rewards and honoris causa doctorates. He is active, continues research, travels and delivers lectures.

FOURTH CHAPTER

Partecipant case study
by Helen Fairweather

Introduction

Mark, a participant on the RAVT course in the UK, is employed as an IT trainer for a social inclusion unit that supports people with a variety of disadvantages. The unit aims to reduce the barriers to learning for adults who experience social exclusion, and aims to provide a pathway through to mainstream learning or employment opportunities. Mark works mainly with physically and mentally disabled people supporting them to learn how to use a computer.

Mark's manager heard about the RAVT course through publicity that was shared at a partnership meeting. Mark was asked to attend the course induction to learn more about the content of the course and how it would fit in with the work that the social inclusion unit does. At the induction session Mark met other people who were interested in the RAVT course and discovered that as well as being able to learn from the course he would also be able to learn from the other participants and share his experiences, of supporting disabled people to learn how to use computers, with the group. Mark decided that the course would certainly fit in with the work he does and that it would enable his organisation to look at the possibilities of introducing e-learning to their service users.

Experience on the RAVT course

The participants on the RAVT UK course were all people who work with disabled people and all had a good level

of IT knowledge. This meant that Mark was able to share his experiences of working with disabled people with the other participants and it was possible to have in-depth conversations about how IT can be used to support disabled people.

During module one of the course, Mark showed that he had some existing knowledge about the Web and the issues surrounding accessibility. The useful aspect of this module for Mark was the chance to learn from other participants about websites they have found to be both accessible and usable, which contain useful information or offer useful services.

In particular, Mark had a lot of experience of having to adapt computer systems for use by people with a wide variety of disabilities, which meant that during module two of the RAVT course, he was able to input a lot of information and personal experiences into the discussions that took place. He had a lot of useful advice about adapting computer hardware without having to spend a lot of money on specialist equipment.

Mark enjoyed the parts of the course that were delivered on the e-learning platform, although he did have some problems connecting to the platform on his computer at work, finding it to be slow to access areas such as the chat facility. Besides from the problems with slow connection, Mark quickly adapted to using the e-learning platform and saw how useful it could be for the people he works with.

Mark had to travel quite a long way to attend the course, which sometimes made it difficult for him to fit the training session in with his work and personal commitments so he found the sessions that were delivered through the e-learning platform to be much more flexible and able to fit in with his busy life.

After the RAVT course

Since the end of the RAVT course, Mark has signed up to do a course to learn how to use Moodle, the software that was used to create the RAVT learning platform and one that is used by many academic organisations.

When Mark is confident in using the Moodle software, he will create an e-learning platform for his organisation and the organisation will then introduce e-learning as a new option for people who want to participate in the courses they offer but who prefer to work from their own computers at home or to access the courses from their workplace. In particular, the organisation will be able to offer disabled people a more flexible way of learning.

Conclusion

Whilst Mark did have some difficulty in attending all the RAVT training sessions due to commitments at work and in his personal life, the time that he did spend on the course enabled him to learn about website accessibility and how certain factors can affect a users experience of the web and about adaptive equipment that can support disabled people to use computers more effectively; he was also able to pass on advice to the tutor and other participants about the software and hardware used by his organisation.

Mark learned a lot about the benefits of e-learning and took this information back to his organisation and recommended that an e-learning platform should be offered as an additional vehicle for learning alongside the existing learning services that the organisation already offer.

FIFTH CHAPTER

Online learning – Moodle as a tool for e-learning and social networking
by Adam Hill

What is Moodle?
"Moodle is an open source e-learning platform with social networking and community tools"
What? I hear you ask… In order to fully understand what moodle is we'll break down the sentence above into manageable sections.

Open source – open source is a standard, a form of distribution and an ethical means of developing software. The term means very much what it says in that the source of the software is open – so anyone has access to the source, and anyone can do what they like with it.
The joy of open source means that those on a limited budget and without the resources to develop large-scale bespoke applications, can still harness the power of the internet in what they do. In this case specifically we're looking at the educational and social networking benefits of Moodle

E-learning Platform – e-learning stands for electronic learning. This is referring to the tools used to develop your learning, in this case its technology and more specifically computers and the internet. Using these tools as a means to education brings about a whole new way of teaching and learning that takes the power of multimedia. E-learning creates new knowledge and ways of sharing knowledge that were either difficult or indeed impossible to use in the past.

During the RAVT project, the e-learning platform has been used as a tool in "Blended learning" which means a mix of the "virtual classroom" and face-to-face learning environment. This creates an increase in the knowledge and use of ICT in participants and allows communication outside of the classroom, and indeed across borders between the international learning groups.

Social Networking and Community Tools – Social networking tools focus on building online networks or organisations and individuals who share interests or activities. Moodle has a range of tools inside that develop the social networking and community capabilities of students including forums, file sharing, chat, discussion groups and messaging. As the target groups are all working in the same sector the building of a community has lead to greater understanding of the context of professionals in other countries, and the development of personal relationships and discussion outside of the classroom on the national level.

By building social networks within a particular sector, a position of trust can be gained giving greater credibility to the information and opening up the knowledge base of each of the individuals.

Why use Moodle?

So why did we use Moodle as the platform for RAVT? Well, its true that there are a number of platforms we could have used. Some alternatives would be Docebo (www.docebo.org), Claroline (www.claroline.net), Dokeos (www.dokeos.com), but there are also many, many others[12].

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[12] You can find many tools at: http://www.unesco.org/cgi-bin/webworld/portal_freesoftware/cgi/page.cgi?d=1&g=Software/Courseware_Tools/index.shtml

After testing and researching a number of the top ranked e-learning platform, here are some of the reasons why we chose Moodle.

Philosophy – Moodle has a very clear pedagogic philosophy of development that is very relevant to the philosophies behind the RAVT training course. The core of this philosophy comes in the form of "Constructionism", "Social Constructivism" and "Connected and Separate"[13]. The clear common themes being collaboration, the learner focussed approach and the understanding of your environment and the environment of others.

Multimedia Support – Moodle has full multimedia support on installation which was important given the need for sound, images and video that the RAVT course demands.

Modular Development – The Moodle system is a group of modules, this means that it is easy to add new functionality and adapt the system to a user-centric, dynamic course such as RAVT.

Multilingual – Moodle is available in 37 languages making the multilingual environment easy to setup.

Stability and Support – Moodle is used by such institutions as the Open University (UK), San Francisco State University (USA) and the University of Genoa (ITA) demonstrating the stability of the system. The Moodle Community[14] is made up of over 330,000

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[13] http://docs.moodle.org/en/Philosophy
[14] http://moodle.org/course/category.php?id=1

registered users each sharing their knowledge in support of those with Moodle issues.

How does it work?
The key to the success of Moodle in the RAVT project was that it could be used in different ways for different countries, and indeed for different individuals. Working in four countries with varied levels of experience of ICT and needs from the course, the tutors adapted the Moodle system to cater for the individual and the group.

Moodle works in courses, each course made up of different topics. All four tutor groups created four topics that consisted of one general information topic about the course, a main forum and also a chatroom and three topics, one for each module. The module topics included supporting documents, downloads and assignments that had to be read, actively used and the outcomes uploaded by the students. In this way the system was the central assessment tool for the course as well as providing all teaching materials and giving the ability to study and work from home – thus giving an understanding and experience of the scenario of tele-working.

In addition we had two further courses that were the International Learning Zone, and the Project Management Zone. The International Learning Zone is an area that all of the participants and tutors had access to, and enabled the trans-national communication and knowledge sharing to take place. The format of this course was more open to allow the participants to develop and use it in the ways that were comfortable for them.

The Project Management Zone was an area that only project managers and tutors had access to and created an environment of learning and information sharing in the core of the project. This area was used for online

meetings and training, sharing information, discussing project management issues and developing the project.

Other Features

The other features of Moodle add functionality to both managing the courses and the learning environment.

Event Calendar – The event calendar allowed us to share the times of the face-to-face learning within each learning group, as well as any other key national events like the seminars. On the international level we were able to use the calendar to plan online live chat, project meetings and deadlines for reporting.

Chatrooms – The chatrooms were great for the discussion between the project team. Although not used so much for trans-national learning due to language issues, the charoom was widely used to plan and prepare parts of the project and to bridge the time gap between the project meetings. Additionally we used the chatroom as a training tool to be able to train tutors on how to use the system and answer questions in real-time.

User Management – This vital part of the system was used to manage users, permissions and to make sure that the right people had access to the right information. Possibly one of the most complex areas to manage, the user management system was key to the success of using Moodle.

Conclusions

Moodle has been a very productive and intuitive e-learning tool that has had to rise to some large challenges with the range of knowledge, experience and access to resources within the RAVT partnership. In working with those with disabilities, accessibility, flexibility and simplicity were key to making the platform a success.

The system was able to adapt to the needs both of the international partnership but also the beneficiaries taking part in the training course.

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