Workshop on Advanced Learning Technologies for Disabled and Non-Disabled People (WALTD)

The 7th IEEE International Conference on Advanced Learning Technologies
July 18-20, 2007
Niigata, Japan
Distributed social and personal computing for learning and instruction
http://www.ask4research.info/icalt/2007/

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Workshop chair(s):
Dr Marion Hersh
Dr Dónal Fitzpatrick

Description of background and goals

Education should be considered a basic right. It is also vital for personal and social development, to give individuals opportunities and society a future. It should also be considered a right of every person to contribute to society to the maximum of their ability. Access to education, particularly further and higher education, increases the contribution people can make. However, many disabled people currently experience numerous barriers in accessing both education and employment and are in an enforced state of dependence, rather than being able to earn their own living and contribute to society.

There are two main models of disability: the social model and the medical model. The medical model in both its original and revised versions was developed with the World Health Organisation (WHO, 1980, 2001). Although the revised version is closer to the social model than the first medical model, an individual's impairments are still seen as a problem to be corrected. This differs from the social model, which developed out of the disabled people's movement (Barnes, 1994; UPIAS, 1976). It recognises the existence of impairment, but considers disability to be due to social and infrastructural barriers rather than impairment and that the problem is in society rather than disabled individuals. It has helped many disabled people to become more confident and assertive. Through the disabled people's movement they have to some extent successfully campaigned for a change in attitudes from pity to acknowledgement of and respect for difference and increased legal rights and access to all the facilities, services and goods of society. These campaigns in combination with other factors have led to some degree of recognition of the need for full social integration of disabled people and changes in legislation to promote the rights of disabled people and counter discrimination against them. However, in most cases measures to ensure implementation of the legislation and monitoring of this implementation are lacking.

Education is still a very key factor in giving disabled people opportunities for both personal development and economic independence. Currently, many disabled people undertake numerous training schemes, which do not lead to recognised qualifications or increase their prospects of obtaining satisfying paid employment and leave them feeling frustrated and angry. Disabled people are still seriously underrepresented in both further and higher education and have lower average qualifications than the

population as a whole and considerably lower rates of employment. For instance, a 2001 survey for the European Blind Union found unemployment rates of blind people of 77% in Hungary, 87% in Poland, 72% in Germany, 55% in Finland and 68% in Norway (EBU, 2001).

It is therefore important to examine the barriers to increased participation by disabled people in education in order to determine ways to overcome them. The focus of this workshop will be learning technologies and the associated underlying pedagogies. Education has always used technology, from a stick for scraping letters and diagrams in the earth or sand onwards. However, the range, diversity and different media in which educational technologies can be developed are many times greater now than at any time in the past. Computer based and multi-media learning technologies have become particularly important, but there are also very important lower level technology approaches, such as textbooks. There are also questions as to whether or not multi-purpose technologies, such as laboratory equipment, should be classified as learning technologies. However, disabled people require access to both purely learning technologies, as well as such multi-purpose technologies, in order to obtain the full benefit from education. Although disabled people often experience serious barriers in accessing and getting the greatest benefits from education, there have been advances and there are examples of good practice.

In addition to questions of accessibility, there is also the issue of usability. Accessibility is about the environmental characteristics of the system input and output which either enable or prevent particular groups of users from using the system, whereas usability is the ability of the system to carry out the intended function(s) when used by particular groups of users (Federici et al, 2005).

Other important issues relate to the cultural appropriateness of the learning content and the availability of learning technologies and the associated documentation in different languages. It should be a truism that not all (disabled) learners speak English or even another European language. Related issues include the choice of icons, symbols or abbreviations to denote particular activities or carry out operations. There are also specific cultural and other issues relating to the provision of learning technologies, preferably in the appropriate national sign language for Deaf people.

There are also issues relating to learning and cognitive styles and personal preferences. This is probably best supported by a facility to customise the system, which should be easy to operate.

Themes to be discussed in this workshop include the following:

- A study of the current state of the art, including case studies and examples of good practice.
- Specific challenges: accessibility and usability of content and presentation.
- Pedagogical issues in relationship to learning technologies for disabled and non-disabled students.
- Design for all approaches or design for specific groups of learners?: different approaches to developing learning technologies for disabled and non-disabled students.
- Involving or consulting with disabled students when designing and developing learning technologies.

- Learning technologies, open and distance learning – accessibility, usability and support issues.
- Cultural issues, personal preferences and customisation.

Three main questions addressed by the workshop

1. What is the current state of the art regarding the development of Advanced Learning Technologies for Disabled and Non-Disabled People?

2. How are specific challenges related to accessibility and usability of content and presentation in advanced learning technologies currently being addressed and should a design for all approach or design for specific groups of learners approach be taken in the future?

3. What are the key pedagogical and cultural issues in relation to designing and implementing learning technologies for disabled and non-disabled students.

Target audience

The tutorial is not exclusive to, but is meant especially for the following categories of participants:

- Developers, students and educators interested in addressing accessibility and usability issues in the design of advanced learning technologies.
- Researchers who want to explore the pedagogical and cultural issues associated with addressing the needs of disabled and non-disabled students using learning technologies.
- Students and educators with minimal technical background interested in researching learning technologies as a key factor in giving disabled people opportunities for both personal development and economic independence

Workshop Organization

The workshop will last for 2 hours. (We would like this to be 4 hours if possible)

The workshop will consist of 3 sessions each based on one of the 3 main questions addressed by the workshop

Each session will consist of 10 minute paper presentations followed by a 10 minute interactive discussion.

Paper Submissions

Paper submissions can be either position papers (2 pages long) or full workshop papers, (10 pages long). All papers will be per-reviewed.

Position papers will be published in the main IEEE proceedings of IEEE International Conference on Advanced Learning Technologies (ICALT 2007)

All workshop papers will be published in the online workshop proceedings edited by the general workshop chairs.

Submission Dates

February 5, 2007 - Paper submission
March 16, 2007 - Notification of acceptance
April 6, 2007 - Camera ready position papers
April 6, 2007 - Camera ready workshop proceedings

Expected Results

The expected results of the workshop are

- Increased knowledge and understanding of the three main questions addressed by the workshop.
- The determination of the research agenda in the area of learning technologies for disabled and non-disabled people.
- The development of a network of researchers interested in this area.

Program committee

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