**Digital Literacy Campaign for Women with Disabilities**

**Abstract**

The strategy “Digital Literacy Campaign for Women with Disabilities in rural and disadvantaged communities in developing countries"  
The campaign aims to develop an effective strategy to enhance ICTs and IT skills among Women with Disabilities (WwDs).  
The qualitative research study investigates a model of delivering assistive technology training, ICTs and IT skills to women with disabilities with a variety of disabilities who are enrolled in telecentres, knowledge centers, ICT access point centers and others...  
Information and Communication Technology (ICT) can be used in the most effective ways for education and training of women with disabilities.   
The digital literacy needs of women with disabilities are extremely diverse. As with all other members of society, women with disabilities must acquire the knowledge and skills required for the community in which they live.   
The application of ICT is very important as it plays an essential role in supporting high quality education for women with disabilities learners. The advantages of ICT usage in the teaching and learning process are based on the possibilities it offers for alternative means of communication, providing access to educational resources in a more convenient way and to enhancing learning motivation.

Women with disabilities are more likely to face poverty, unemployment and under-education than their male counterparts. This means they are less likely to have access to ICT which, in turn, means they are less likely to overcome socioeconomic barriers.

**Key Issues Identified**

* Digital Literacy for Women with Disabilities
* Digital Divide and Empower Women with Disabilities
* Gender and ICT
* The ability of women with disabilities to access and use ICT
* The ability of women with disabilities to use the internet as critical part of modern society.
* Ensure the inclusion of all women with disabilities in the digital age.
* Women with disabilities are particularly vulnerable to being digitally excluded because of the following factors such as lack of awareness, lack of access and support also high cost of AT and ICTs equipments.

**Target Group**

Women with Disabilities, Girl’s Students with Disabilities in developing countries and specifically in rural and disadvantaged communities.   
  
**Introduction**ICT & AT are offering new opportunities for everyone, specifically for women with disabilities. they can use ICT and AT for daily activities to a higher extent than people in general. Assistive technology adapted to the abilities of everyone, disabled end-users would be able to participate to all aspects of social life on more equal terms than ever before. It is vital for girl’s’ students with disabilities to benefit, on an equal basis, from rapid development of Information Communication Technologies to enter an inclusive and barrier-free Information Society.  
  
Today with the advent of Information Communication Technologies (ICTs), new hopes are emerging for Persons with Disabilities (PwDs). In spite of the huge challenges, sincere efforts are being undertaken to involve ICTs to counter issues around disability. The information society represents at once significant opportunities but also potential new barriers for the social inclusion of disabled people.

**“A journey of a thousand miles begins with a single step “**

We need information and knowledge to get our basic needs met, make decision, move around, participate in social, economic and cultural activities.  
ICT is of course an enabling technology and we should not lose sight of this fact. If it is not properly planned, managed and implemented, it might throw us into social gaps or the ‘digital divide’.

The use (ICTs) in the field of learning and education is very high on the political agendas of countries and we are required a lots of efforts at national, regional and global level to address the special requirements of women with disabilities, using appropriate educational, administrative and legislative measures to ensure their full inclusion.

ICT&AT for development of girl’s students with disabilities is adopting feasible techniques to attain the maximum benefit in addition the use of Assistive Technology (AT) can increase their capabilities and independence in both in and out of school settings. The items can be used for communication and productive or to provide an individual with an opportunity to experience recreational opportunities.

Individuals with serious sensory disabilities such as physical disabilities, visual impairments or deafness have benefited more than any other group of individuals from advances in assistive technologies.

The advances in technology for these individuals can lead to increased productivity, employment and recreation opportunities.

Some progress towards disability inclusive development, there have been very few initiatives aimed to include disability in the Millennium Development Goals (MDGs) "Education for All"

**Overall goal(s) of Empowering Women with Disabilities and use Technology**

(ICT) has been identified as an important aspect of the wider strategy for the social inclusion of women with disabilities through the following topic:

1. e-Learning at Distance

E-Learning at distantis new opportunities for WwDs. Distance courses allow them to continue living at home while they are studying.

2. Reading Digital and Audio Libraries.

Women with all types of disabilities are now able to get their courses from digital and audio libraries and get material, content, resources from internet.  
The DAISY (Digital Accessible Information System) Consortium has reported moves towards the integration of DAISY standards for talking books into mainstream e-Book standards such as the Open eBook Forum (OeBF). The DAISY Consortium strive to keep accessibility issues to the forefront of ebook developments and feel that as long as the disability community participates in the OeBF’s activities

3. Internet, Broadband for Women with Disabilities.

The WwDs are using the internet building capacity to communicate with each other at a distance, during the internet they are gathering and understanding public information, news, participating in leisure interests with others, chat, shopping, attending finances, writing to authorities and friends, a computer with a broadband connection provides opportunities for enhanced participation and independence life.

4. Winning communication

The WwDs are now able to communicate with others online, taking e-learning courses and interact with the instructor and the other students through online discussion.  
Also, moderating synchronous communication, learners may find it hard to attend to the many elements that are active at the same time during an online course. The moderator or facilitator of the course needs to ensure that all learners are attending to the information being presented and see the relationships among what is happening on screen, what the presenter may be saying, and what is appearing in print.  
For example, online discussion for learners who are deaf, learners who are deaf will be unable to participate in audio conferences or video conferences.  
Another example, online discussion for learners with mobility impairments, learners with mobility impairments may use an alternative keyboard or speech input software to access the online course and participate in written communication.

*For Example, "In Arab countries we are missing for such Web sites, moderating synchronous communication in education and e-learning"*

5. Access point

Access point to women with disabilities in disadvantaged communities through ICT Telecentres and Assistive Technology centers and maximize the use of IT skills for the welfare of disabled women in rural and disadvantaged communities in addition creation of public awareness that WwDs can utilize their potentials for their use and the society using adaptive technology.

**Empowerment of Target Group**

The strategy of ICT&AT for Digital Literacy for Women with Disabilities is adopting feasible techniques to attain the maximum benefit for the use of ICT for women. It makes use of all types of provision within special educational setting as a result of national or regional policy in regions.   
The strategy refers different methods some of which are:

- Direct training to disability cases, through specialists, developers, special education teachers and volunteers.

- Indirect training through communicating with household and disabled parents.

- Exchange of expertise with the other interested agencies, universities, researcher and specialists.

- Implementing special e-learning networks for disabled teachers and students to exchange lessons, courses and information among themselves.

**Telecentre and Technology for Women with Disabilities**

There is now a general consensus that for women with disabilities to share in the benefits of new technology, The use of technology for disabled women in the field of education has tremendous potential in alleviating particular problems associated with particular disabilities as well as making job opportunities available for girl’s with visual impairment, hearing impairment, physical disability and vocational training for Intellectual disabilities. The goal can be achieved through specialized computer programmes and models to enhance the capacity of disabled to share teaching and learning skills generated from, and shares successes (and challenges) gleaned from, fellow educators working with women with disabilities.

**Learning and Education of Women with Disabilities**

Growing importance of e-learning is fast becoming the leading mode of distance delivery in adult education, and diversity among learners as more learners become engaged in e-learning, instructors and course developers are finding that the pool of learners is becoming increasingly diverse. Among those learners who access adult education through e-learning, a proportion will be those who have learning challenges.   
 E-Learning and education meet the accelerating needs of our communities in developing countries.  
The numbers of girl’s students with disabilities cases in our societies especially in remote and disadvantaged communities increased.   
For this reasons we are required to work with groups of developers, researchers, teachers and volunteers to combat this situation. Also, we are obliged to set work plan and look to the measures and spent efforts to realise this move.   
We can work gradually a deeply rooted base through special education teachers, volunteers and donor's that would ensure digital literacy strategy and suggest ways in which instructors and course developers can prepare their courses so that accessibility is maximized for all learners, including those with disabilities. The principle of universal design for learning, “best practice” teaching strategies and accessibility guidelines that will reduce barriers in learning environment.  
We have applied a few of principles of universal design for learning through the following topics:  
- Work to increase education participation earnings and the quality of education for groups that experience persistent education barriers including women with disabilities.   
- Improve overall education outcomes for students through extending sustainable education objectives.   
- Encourage the development of a range of options recognizing the diverse needs of disabled women.   
- Ensure girl’s students with disabilities have the same education and inclusion conditions.   
- Make ICT methods offered to the general public available in formats appropriate to the different needs of disable students.

**ICT Providing Computer Accessibility for Women with Disabilities**For intensive exchanges of knowledge and experience in promoting awareness, planning and developing accessible ICTs solutions in the context of sustainable and equitable development for present and future generations.  
To address the digital divide faced by women with disabilities in the world and to promote the digital opportunities of WwDs, the decisions and declarations adopted a set of recommendations including the definitions of WwDs, (ICT) “and “Accessibility”.  
“Accessibility” can readily be reached or used at:  
Women with Physical Disabilities, Blind and Visual Impairments, Intellectual and Hearing Disabilities. Also, Learning Disabilities, Autistic Spectrum Disorders, Down Syndrome and Dyslexia.   
The role of ICTs is promoted to enhance teaching, learning and explore the following issues relating to how ICTs enhances learning, and it will also explore how ICTs enriches the learning opportunities and potential of women who have disabilities.   
It is largely a software concern; when software, hardware, or a combination of hardware and software, is used to enable use of a computer by a woman with a disability

**Use ICTs& AT in digital literacy to achieve more purposes**

- ICTs can help women with disabilities to provide access to learning.

- ICTs can provide support for learning.

- ICTs can help women with disabilities teachers and promote their skills.

- ICTs help girl’s students to merge in their local society.

**Use ICTs for making sites accessible**For instance, how we can make sites accessible to **girl’s** students with learning disabilities.We can do to ensure that site is accessible to these students.   
We can ensure that site is accessible through a screen reader to assist them when using a site and certain Web Content Accessibility Guidelines.  
We can greatly improve the accessibility of site to WwDs through the following points:   
Navigation; Necessary of content; Links; and Headings.   
Improving readability is also important and certain techniques aimed at assisting WwDs include: Shortening sentences; reducing column width; using headings; reducing color contrast; and presenting only one idea per sentence.  
Commitment to apply the principles of the Web Accessibility Imitative (WAI) and the Web Content Accessibility Guidelines (WCAG 2.0)

**Use ICTs for Women with Physical Disability**ICTs may be essential for access for communicating with other pupils.   
ICTs can help girl’s students in IT skills.   
**ICTs tools that can offer support**   
Communication aids, computer access devices – switches.   
Access utilities and specialized software, Software with alternative input options.   
**Use ICTs for Blind and visually impaired;**another blind and visually impairment, since computer interfaces often solicit input visually and provide visual feedback in response. Allow girl’s students to make the most of their vision when using ICTs and Assistive Technology.  
In this respect we have to take the following points into consideration:  
Consider the position of the student. Consider the position of the screen and the clarity of the display.   
Use large, clear fonts if they help adjust the colors and add speech feedback where possible.

**ICTs tools that can offer support**Speech recognition, talking word processors, big pointer utilities, screen magnifiers, screen readers, electronic Braille's, closed circuit television.  
 **Use ICTs for Women with Hearing Impairments;**whose language is a major difficulty? While sound user interfaces have a secondary role in common desktop computing, usually limited to system sounds as feedback, software producers take into account people who can't hear, either for personal disability, noisy environments, silence requirements or lack of sound hardware.

ICTs can be used for language development activities, Symbol or picture enhanced text can bring meaning to print and illustrated concept keyboard overlays make writing more accessible.

**ICTs tools that can offer support**Symbol generating software, word processors, concept keyboards, word lists, clip art to illustrate writing and spell checkers and grammar checkers.**Use ICTs for students with Autistic spectrum disorders, Dyslexia, Down syndrome and Learning with Disabilities.**Explore ways in which ICTs can be used to support individual students' needs and provide exposure to on-line resources. Software which the teacher can use to support those needs.   
Learn about the use of these resources and strategies to assist with their integration into the curriculum, learn about different uses of ICTs and AT, to assist in language development and communication also, focus on a topic of particular interest to the participants through a project in a supported environment.

**ICTs tools that can offer support specialized programs.**Talking books, word list facilities, laptop computers, talking word processors and speech driven writing tools.

**Education Strategy for Girl’s Students with Disabilities**ICT&AT opens up great opportunities to improve the quality of life students. Education is possible where girl’s students with disabilities want to learn, develop, live and finally work in the future. The role of strategy is rehabilitating ICTs in the field of disabilities to acquire education and jobs in the future.  
Together we work to:

* Development of girl’s students with disabilities whose successful transition from education to work.
* Educate special education teachers.
* Increase education participation earnings and the quality of education for groups that experience persistent education barriers including students with disabilities.
* Improve overall education outcomes for students with disabilities through extending sustainable education objectives.
* Encourage the development of a range of options recognizing the diverse needs of WwDs.
* Ensure students with disabilities have the same education and inclusion conditions.
* Foster an aware and responsive public service.
* Make all information and communication methods offered to the general public available in formats appropriate to the different needs of disable people.

Also, we need to improve and develop the necessary human and knowledge resources required to deliver the specialised training, which will enable WwDs to become gainfully employed**.**We will simultaneously draw attention to the breadth of potential value in ICTs for women with disability in education and employment**.  
  
What we need and what the challenges?**Raise awareness about the barriers that women with disabilities face and identify the potential of technology to overcome these barriers.Six inter-related barriers to ICT can be identified in existing literature. These are: • Lack of interest. • Lack of awareness. • Difficulty of access. • High cost of ICT.• Lack of on-going support. • Lack of training.

Limited of complementary services, e.g. assistive technology, special accommodation for certified exams, vocational counseling and assessments.  
Limited of accessibility features at mainstream ICT training facilities.  
For the sake of brevity, these barriers will often be referred to throughout the document simply as Interest, awareness, access, cost, training and ongoing support.   
In this sense, the above identified barriers can be seen as bottlenecks in the path towards ICT education and inclusion.   
People enter this process at different stages. For example, some women may already have an interest in and awareness of ICT having recently retired from a job requiring computer literacy. Others may have money but lack awareness of methods by which they would be able to access ICT.

They inter-relate and overlap. For example, there is often a cost associated with training or on-going support, sometimes a prohibitive cost. Similarly, awareness of low cost and no cost options can bring ICT equipment within the financial reach of many WwDs.

Also, There are different types of support structures available within countries but, must be focused upon combinations of one or more of the following to success the role of ICTs in development disabilities through attitude barriers in relation to understanding the benefits and possibilities of ICTs at policy and diffused responsibility for policy implementation. National, regional, and global Specialists are working groups to support networks and on – line networks.

The development of theory for using ICTs in digital literacy is seen as being potentially enhanced if there are opportunities for co –operations between different groups of actors ( WwDs and their families, teachers, support professionals and researcher ) at national and international levels. Furthermore, the possibility to enhance virtual co –operation with face –to –face meetings and exchanges was raised.   
The power of ICTs as a tool for communication as well as a tool for learning is reinforced by the personal contact and exchange of persons with disability and ICTs specialists.  
But if we know what we need we want to know the main challenges which face the students with disabilities projects.  
It's a reward for us to see the SwDs and their families have better life.

**Bringing ITU to developing world  
The Future, Moving from Advocacy to Action**

The use ICT for the education of women with disabilities needed to be looked at by policy makers, researchers/ developers and information providers in more depth. These suggestions give an insight not only into areas of present and future need, but also into what the ICT in disabilities field may look like in the future if these practitioners’ requests are met.

Specific suggestions related to four areas of ICT for the education and development women with disabilities:

# 1- Requirements in terms of IT infrastructure development

* Hardware and Software Development.

ICT innovations as one solution to problems of communication and access to mainstream activities and diagnostic purposes and suggestions needs to be a clear focus upon the educational context – cultural and philosophical as well as the technological development.

* Internet Access

Widening access to Internet and improvement of networking facilities to allow more efficient co-operation between institutions and development of an international virtual resource centre with all the information being related to ICT and disabled women.

* Compatibility/application issues

Adaptation of standard software to the needs of the girl’s with different disabilities and integrated research concerning hardware and software in order to ensure compatibility.

# 2- ICT provision: training, support and learning

* Policies

Policy information were put forward examples of policy documents regarding ICT for development WwDs from different countries, data on important results and progress resulting from policies. Also, comparative reports of support structures with statistics and trends identified.

Information on ICT policy, its implementation in practice and its evaluation in other countries was seen to be of high importance. An exchange and reflection upon policy information was seen as an important aid to the learning process at a global level.

* Usage

The main priority for sharing information and practical information on latest hardware and software developments. Overviews of information on available hardware and software relating to particular types of WwDs, examples of innovation in teaching strategies that could be transferred from one country to another, innovations and successful practices in ICT4D PwDs.  
International exchange of resources; comparisons of resource provision across region and global and information on training and training resources that are available, management in schools, educational processes.

* Other Users

The information on users focused upon addresses of experts and institutions in the different countries. International contacts on ICT development and implementation international conferences/seminars for products and services.

# 3- The potential focus of future researches and collaboration

Implementation and evaluation as well as researches and development of technology through researches into psychological aspect of ICTs4D Women with Disabilities, development into new technologies specifically designed for girls and women with special educational needs, researches on the actual effects of ICTs in the learning process , researches work concerning how ICTs may help support the education and inclusion process of women with disabilities and researches into systems directly related to the educational environment and its requirements also, a survey of initiatives and projects using the full range of opportunities for educating omen with disabilities.

Curriculum development using ICTs (considered in both a theoretical and practical way). In the development of educational software, there should a clear focus upon the educational context - cultural, ethnic, philosophical and psycho-pedagogical.

All the suggestions in this area point towards the need for systematic, long-term collaboration, research and/or evaluation that would require the input of different groups of ICTs in practical range.

**Lessons Learner**In this area we explore practical examples of using ICT to assist with the teaching of women with disabilities by help in identifying the most appropriate technologies for addressing individual needs, and suggestions on how these might be managed in educational learning, understanding of ICT and an awareness of the needs of learners with different disabilities. This aim is identify key areas in which ICT can help particular learners.

We find practical experiences of using low-tech aids and ICT to support access to the curriculum focusing on disabled students from nursery and those who are developmentally young. Also included is a series of templates designed to help and create special software.

**Building Social Network Community of ICT&AT4D Women with Disabilities**

ICT and AT for Development of Women with Disabilities is a community of people and organizations working together to improve the social economic impact of Women with disabilities through ICT and AT.

The Target of network is define the role of ICT in capacity building of WwDs and empowering girls and women with disabilities through ICT & AT

For example, tell us about yourself individual or an organization, post a blog, forum discussion, share photos, videos, news, events, customize your group and find out what members are doing successfully in the field of ICT4D-WwDs. So this network may be target for collaboration between individual and groups of people in widely diverse geographic locations.

This network may be wider strategy for digital literacy and for the social e-inclusion and e-learning through e-learning at distance, distance courses allow girl’s students with disabilities to continue living at home while they are studying, to share documents, lessons, exchange ideas and make presentations. Using a computers were common components for the training and studying.

**Vision:**The vision aims at achieving certain goals and focus on more issues through ICTs. It's largest virtual resource and knowledge resources for promoting of Women with Disabilities such as education, curriculums, development, culture, environment and providing them training course and (e)-services and maximize the use of IT skills.

The vision also aims to bridging the digital divide for especially within rural and disadvantaged communities.

Areas in which ICT&AT4D-WwDs network can help PwDs: Education, Mobility, Employment, Leisure Recreation, Communication and Socialization.

Some progress towards disability inclusive development, there have been very few initiatives aimed to include disability in the Millennium Development Goals (MDGs) "Education for All"

**Work Strategy of ICT4D Women with Disabilities Network**

- Using ICTs to enhance the skill sets of SwDs and offer capacity building, empowerment and combating poverty among the WwDs in their communities.

- Using ICT to offer individuals the ability to access knowledge by adapting digital media, and to enhance their social and economic integration in communities.

- Using ICT for improving the quality of life by enhancing of teaching, developing life-skills, complementing learning and exploring other related issues.

- Work at a strategic to prepare WwDs communities; also working directly and helping them to get their ICT visions and output specifications just right in terms of ICT accessibility.

Accessibility covers all aspects of ICT provision through providing ICT access and usage for WwDs, promoting ICT access environment, providing information access rights, providing good practice guidelines on ICT accessibilities, providing training at all levels around accessibility issues and Assistive Technology, keep web accessibility standard and making ICT accessibility guidelines.

**How can we customize Telecentre for Disabilities through ICT4D Women with Disabilities Network?**The ICT4D-WwDs network can be included to telecentre programs such as Telecentre Academy, Telecentre Women, and Telecentre Sustainability

This network intersected with the objectives and goals.

Such as: Improvement of networking facilities to allow more efficient co-operation between universities, institutions and telecentres for all types of disabled students online network (discussion groups, mailing list, chatting, etc...), extensive research is needed to activate the role of ICTs for WwDs in the community.   
Develop of women with disabilities whose successful transition from education to work.    
Foster an aware and responsive public service. Make all information and communication methods offered to the general public available in formats appropriate to the different needs of disable people.

**Conclusion**

*“The People are the real wealth of nation"*

ICT is providing opportunities and making life easier for the women with disabilities by innovations in quick successions. Women with disabilities are now able to communicate with each other and learn through tools of Assistive Technology (AT) and Information and Communication Technologies (ICTs).

Despite the fact that AT&ICTs is helping women and girl’s students with disabilities to learn and interact, but there are some barriers that come in the way of the disabled to get advantage of the wonderful technologies.

***People with disabilities should have the same rights to participate in the Information Society as other citizens.***

***(ICT) should be tools that help overcome barriers they face in education, the workplace and social life.***

Eng. Nabil Eid

Regional Community Coordinator, Telecentre.org Foundation. Middle East and North Africa

Work e-Mail: [neid@telecentre.org](mailto:neid@telecentre.org)

Personal e-Mail: [nabieid@gmail.com](mailto:nabieid@gmail.com)

Phone: +963 955572873

Country: Syria