INFORMATION COMMUNICATION TECHNOLOGY (ICT)

FOR

INCLUSION



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IGNOU

WHAT IS TECHNOLOGY?

- A broad concept that deals with usage and knowledge of tools and crafts, and how it affects ability to control and adapt to environment
- The human race's use of technology began with the conversion of natural resources into simple tools
- Today it has penetrated in every aspect of a human's life. On one hand where it has revolutionized and added values to the life of normal human beings, it has been proved to be a boon for differently abled

WHAT IS INCLUSION?

- Inclusive education means that all students in a school, regardless of their strengths or weaknesses in any area, become part of the school community. They are included in the feeling of belonging among other students, teachers, and support staff.

- The federal Individuals with Disabilities Education Act (IDEA) and its 1997 amendments make it clear that schools have a duty to educate children with disabilities in general education classrooms.



TECHNOLOGY AND PERSONS WITH DISABILITIES

- Promotes greater independence by enabling them to perform tasks that they were formerly unable to accomplish, or had great difficulty accomplishing,

ICT FOR INCLUSION

- At Individual level
- At Systemic/Institutional level

ICT – AT INDIVIDUAL LEVEL

- Assistive technology (AT) is any item, piece of equipment, service or product system whether acquired commercially on the shelf, modified or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.
- It can be a very complex and multifaceted field, yet in some cases be a relatively easy and creative problem solving process
- Includes a range of technologies, which enable people to build on their abilities and participate as fully as possible at home, school, work and in their community

Types of AT

- A no-tech, low-tech or high-tech tools and strategies that match a person's needs, abilities, and tasks
- Selection of appropriate technology as per individual case

ICT – AT INDIVIDUAL LEVEL CONTD…

- Assistive devices
- Content Delivery Systems
- Content generation & archiving

- Education

  Braille. Pictorial communication. Large Print. Personalized environment

- Rehabilitation/Inclusion

  Physiotherapy, Beauty care, Call centre/office jobs, Bank, Court etc.

- Communication

  Voice commands, Descriptors, Large Print

ICT – AT INDIVIDUAL LEVEL CONTD…

Some Gadgets available

Visual Impairment

- Braille shorthand machine
- Distance vision telescopes
- Hand held magnifiers
- KNFB portable reader for blind people
- Talking dictionary
- Smart Cane

Speech Impairment

- Delayed Auditory Feedback (DAF)

Hearing Impairment

- Advanced Digital Speech Audiometer
- Hearing Aid
- Wireless FM Assistive Listening System

SOME OF GADGETS AVAILABLE (CONTD..)

Locomotor Impairment

- Battery Powered Joystick Operated Wheelchair
- Aluminum Crutches
- Ankle Brace for ankle support
- Prosthetic limbs
- Cervical Immobilizer
- Child model tricycle
- Folding sticks and folding walkers

Mental Retardation

- Basic Skill Wooden Puzzles
- We can (daily living activities)
- Calendar of seasons
- Punnarjani

Cerebral Palsy

- Sanyog
- Gupshup
- Switches

Adapted Tools

- Touch screen
- Adapted keyboard



- Ball mouse



- Specific software (Super-Nova for poor-sighted or blind people.)



ICT – AT SYSTEMIC / INSTITUTIONAL LEVEL

- Any tool or service that is helpful in advancing student learning
- An evidence-based applied science derived from basic educational and psychological research
- Enhances capabilities of exploring ideas, innovations and communicating meanings





AT FOR INCLUSION

Examples of some AT to help PWDs in education includes –

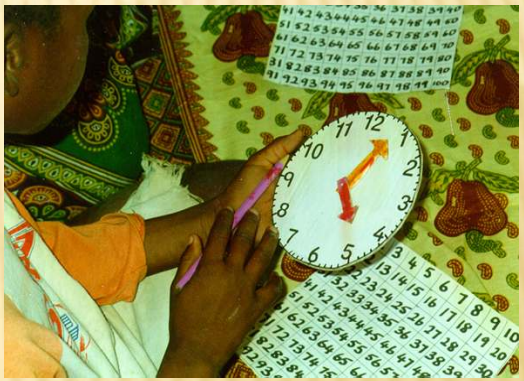


- Braille Duplicators and Writers
- Group Hearing Aid for classrooms
- Alternative & Augmentative Communication software/devices
- Multi-Sensory systems
- Tactile mathematical devices



AT FOR INCLUSION CONTD..

- Tactile geography devices
- Tactile science devices
- Screen readers & magnifiers
- Assessment & evaluation tool
- Models





AT FOR INCLUSION CONTD..

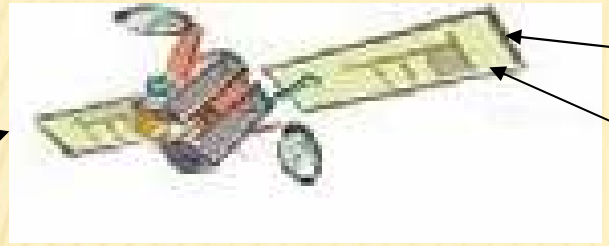


- Multimedia Content
- Content Development Software
- Word Bank & Prediction Systems
- Text-to-Speech Engines & Speech Recognition
- Special Access Switches & Mechanism
- Sign Language & Braille Learning Software etc.

AT FOR INCLUSION CONTD..

- Web-Portal
- Edusat
- M-Learning
- Web-cast
- Online learning
- On demand examination

NATIONAL NETWORK FOR EDUCATION AND EMPOWERMENT OF THE DISABLED



Studio

14000 Block Resource Centres

3000 NGOs

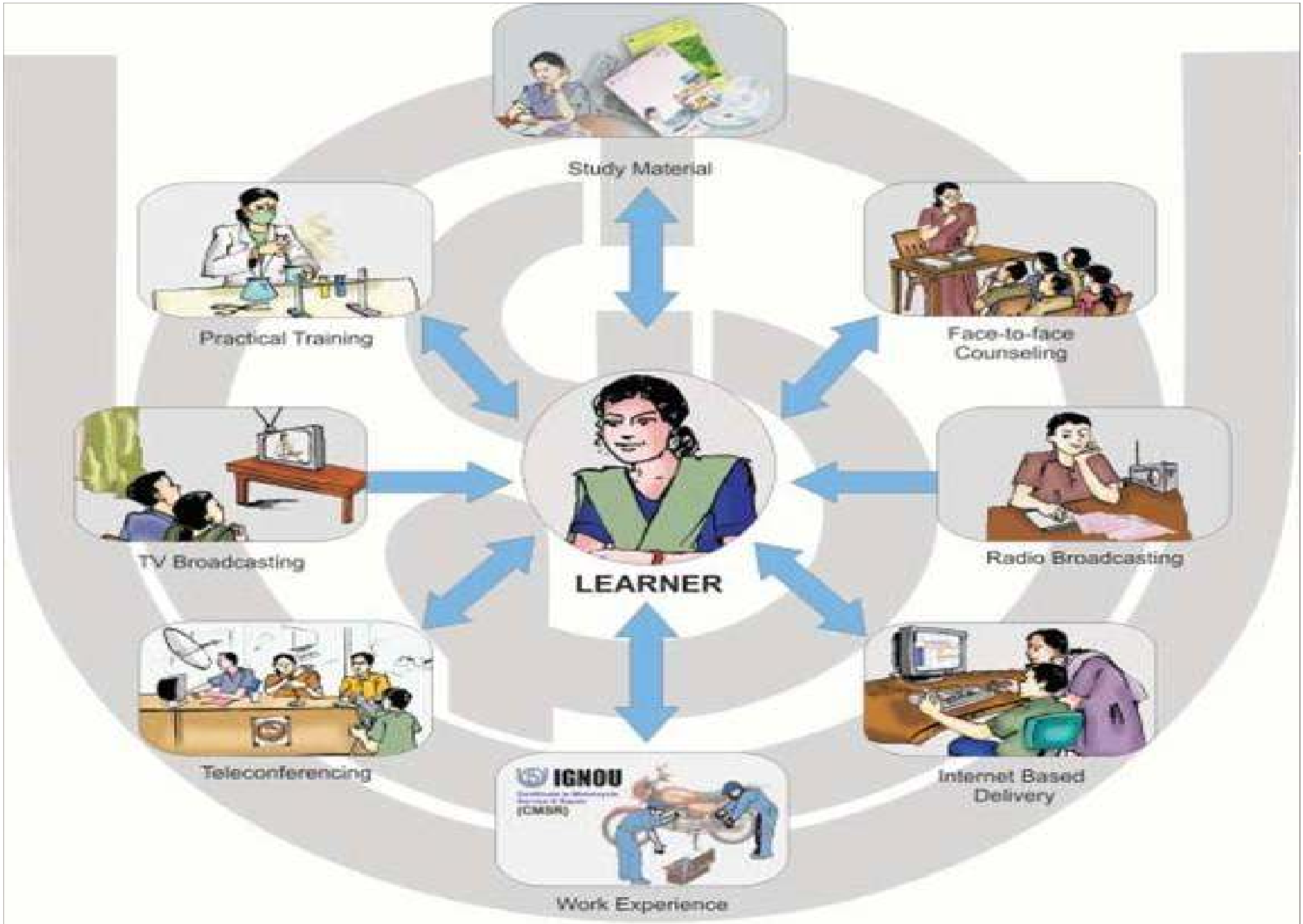
Portal: www. Punarbhava.in

National Disability Register
Repository of Braille ready-Text, Audio files etc.
List of MSJE offices, Special Schools, NGOs Special Educators.
All Government policies, Schemes & circulars related to disabled people.
Availability of Assistive Devices & its details.
Programmes recognized by RCI.

Internet Cloud

235 MSJE office

28000 Special educators



The learner-centric instructional system of IGNOU

AT FOR INCLUSION

Utilization and Production

- How are they used?
- Can we generalize them across disability?
- Use symbols for hearing impaired and learning disabilities or speech conditions?
- How easy is it to make them?
- Who should make them?

AT FOR INCLUSION

AT and Curriculum Access

- How can AT help children with disabilities access the curriculum?
- E.g. Braille books, large print, symbols, increasing font size on the page, using low vision aids to read books.

AT FOR INCLUSION

Assessment and IEPs

- Planning where AT can be used to help a child learn
- What are the implications of assessing a child and recommending AT if none are available?

BENEFITS OF ICT

Some of the claimed benefits of ICT for Education are:

- **Easy-to-access Course Material** – Multimedia/easy to understand course material can be posted on web which learners can access at a time and location they prefer
- **Motivation** - Computer-based instruction can give instant feedback to students and explain correct answers. Moreover, a computer is patient and non-judgmental, which can give the student motivation to continue learning
- **Wide Participation** - Learning material can be used for long distance learning and are accessible to a wider audience
- **Improved student writing** - Convenient for students to edit their written work which can, in turn, improve the quality of their writing
- **Subjects made easier to learn** - Many different types of educational software are designed and developed to help users to learn specific subjects/topics easily
- More amenable structure to measure and improve outcomes. With proper structuring it can become easier to monitor and maintain student work while also quickly gauging modifications to the instruction necessary to enhance student learning

There may be many questions regarding the application of Technology in Serving Persons with Disabilities

But

Use of Technology becomes inevitable in the growing technological world

SUGGESTED MEASURES TO PROMOTE ICT AMONG PERSONS WITH DISABILITIES

- Information to be provided in dual communication mode for the benefit of persons with disabilities.
- Assistive devices to be adapted for improving access to technology.
- Indigenous production of devices to be taken up to increase the affordability by persons with disabilities.
- The existing curriculum for persons with disability to be expanded to include information technology inputs.
- Open learning system to be encouraged to offer information technology oriented courses for persons with disabilities.
- Some IT related jobs in public and private sectors to be earmarked for persons with disabilities.
- In order to promote information technology among persons with disabilities, the organizations working for them should also inculcate the IT culture in their activities.


Thank you