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## ASSESSMENT OF PREQUISITE SKILLS FOR PRINT READING IN EDUCATION OF CHILDREN WITH LOW VISION

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**Abstract:** ICT has changed the lives of both normal and differently abled students. Penetration of ICT in all walks of life can be felt by all including differently abled. Population of blind can be bifurcated into totally blind and low vision. The population of low vision is more than 70% among population of blind in India. We are going to deal about the USE of ICT for acquisition of pre requisite skills for children with low vision. This type of children who can read large print letters. Education of low vision children must have solid foundation viz identification of pre requisite skills ----- learning of pre requisite skills ----- mastery of pre requisite skills ----- acquisition of print reading skills

**Keyword:** Prequisite , Education , Low Vision , Optical Character Recognizer .

### INTRODUCTION:

#### I) COMPUTER FOR LOW VISION CHILDREN

Low vision children can interact successfully with the computers to gain independent access. The micro computer operates on manipulation of electronic signals, digital information which can be presented by a video display terminal (VDT), voice synthesizer or Braille display. The programmes mainly Optical Character Recognizer (OCR) and direct graphical transcription (DGT) can be easily used for this purpose. (Dick, 1992) OCR - are programmes that translates pictorial image of a document into a coded format. The output can easily be used in computers to produce large print, Braille or speech. DGT - are programmes that translate the material into large print and not in Braille and speech.

#### II) PRE REQUISITE SKILLS FOR PRINT READING BY LOW VISION CHILDREN

The following are the pre requisite skills for print reading by low vision children,

- a) Close distance visual acuity
- b) Visual field
- c) Contrast
- d) Illumination
- e) Focusing
- f) Tracking
  1. Horizontal
  2. Vertical
  3. Diagonal
- g) Scanning
- h) Shift Gaze
- I) Eccentric vision training: selection of best viewing angle

##### a) Close distance visual acuity

Acuity means ability to see the print. Close distance acuity is an important prerequisite skill for learning

print reading. This ability incurs reading acuity. Eloquence may be seen in the case of trained individual rather untrained individual. During the training the low vision children were asked to find his/her own preferred angle of view and head movement. Distance between monitor and head will be a useful clue. (Ex. OS windows 2007 MS word – home menu by viewing any typed passage)

##### b) Visual field

The training in visual field is basic to read letters smoothly. Any distortion of letters or lack of space affects print reading. Sometimes a low vision child may see one print letter at a time or two or a word etc. The visual field restrictions may force the low vision child take longer time to see a word or sentence. How many letters or words or pictures or area seen by candidate in a monitor can be noticed. (Ex. OS windows 2007 MS word – home menu by viewing any typed passage)

##### c) Contrast

Ability to pick up information from a given textbook (different colour background) or newspaper is the hallmark of this skill. Hence contrast sensitivity is an important pre requisite skill for print reading. You can change the background colour in the monitor. (Ex. OS windows 2007 MS word – page layout menu)

##### d) Illumination

Natural illumination or artificial with sufficient quality to promote reading is an essential pre requisite. Eye diseases which require more illumination are glaucoma, macular degeneration, retinopathy in diabetic. Eye diseases which require reduced illumination are albinism, retinal diseases. Too high or too low level illumination will hamper the visual function. . (Ex. OS windows 2007 MS word –

setting).

**e) Focusing**

Fixing the vision on an object is not that easy for most of the low vision children with nystagmus (rapid involuntary eye movements). Perception of details falls primarily on focusing the object.

- f) Tracking
1. Horizontal
  2. Vertical
  3. Diagonal

Tracking or following is the ability to move continuously next word or letter or object. This is fundamental for print reading. Ability to pick up sentences above or below level from the point of reading, here comes the skill of vertical tracking. Tracking diagonally for finding next line is also a useful pre requisite skill. With use of arrow marks one give practice for low vision children. (Ex. OS windows 2007 MS word – home menu by viewing any typed passage)

**g) Scanning**

This skill aims to find out likeness and differences. This pre requisite skill is influencing the learning of visual task / print reading. Accuracy and speed will improve if low vision children are provided with good training material. . (Ex. OS windows 2007 MS word – home menu by viewing any typed passage)

**h) Shift Gaze**

This is a pre requisite skill helpful in location of starting point of next print line. Adjustment in head movement and movement of print area on the opposite direction one can notice. With use of arrow marks one give practice for low vision children. (Ex. OS windows 2007 MS word – home menu by viewing any typed passage)

**i) Print size**

This skill incurs the ability to use right size of letters for the purpose of print reading. (Ex. OS windows 2007 MS word – home menu > font size)

**j) Eccentric vision training: selection of viewing angle**

The preferred angle selection is pivotal here for the purpose of reading. (Ex. OS windows 2007 MS word – home menu by viewing any typed passage)

**III) HOW TO MAKE USE OF COMPUTER FOR IMPROVING THE QUALITY ABOVE STATED PRE REQUISITE SKILLS**

There are two common ways to use computer  
I. OS MICROSOFT 2007 – ALL PROGRAMMES  
>ACCESSORIES>PAINT BRUSH  
(TO KNOW ABOUT PRINT SIZE)  
ALL PROGRAMMES>ACCESSORIES>MAGNIFIER  
OS WINDOWS 1995 – ALL PROGRAMMES  
>ACCESSORIES>PAINT BRUSH

II. Visual basic programme to assess the level in pre requisite skills for print reading.

**IV) WHO ARE THE BENEFICIARIES OF THIS ARTICLE?**

- a)Teacher Educator
- b)Special Teacher
- c)Inclusive Education Teacher
- d)Low vision student

**V) CONCLUSION**

ICT opens equal opportunity and access to differently abled. One among differently abled group is low vision children who constitute more than 70% in population of blind in India. Low vision children can easily read large print. Hence promotion of print reading for those who can read large print is a welcome measure. Sound approach in education for low vision is to get mastery in pre requisite skills. Mastery in pre requisite skills will ensure smooth and steady progress in print reading for low vision children. Thanks to use of ICT the teachers of low vision or teacher educator or low vision himself can make use of PC for attainment of mastery in pre requisite skills.

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