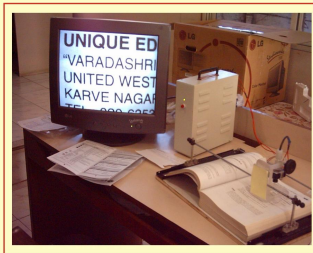


MODIFIED READING & WRITING DEVICE FOR PARTIALLY SIGHTED- LOW VISION PERSON

Background:- Literacy can be defined as the ability to read and write, therefore, reading & writing skill is very vital for successful education and career. The quality of life is also important in today's world. In case of visually impaired students learning to read and write in traditional ways may not be possible. Learning to use low vision devices is another path to remain literate for visually impaired students. The devices like magnifiers and computers equipped



with various types of software use for reading the screen can open up the world of literacy for visually impaired persons. Instruction in literacy skill is a critical effort and use of CCTV system can

make a dramatic difference in the life of a visually impaired student.

Problem: - Students suffering from macular degeneration, stargards diseases etc. are having central vision loss. They require very high magnification of text to read. Optical magnifier cannot achieve this magnification and CCTV system becomes essential. The cost of the CCTV system is very high and people in developing countries could not afford it, therefore, many people are deprived of the use of sight and in turn opportunities to improve quality of life.



Solution : By using CCD camera we can magnify the letters from 10 to 50 times. We can also adjust the contrast level. This is very useful system for reading or doing some work. In conventional CCTV system, developed in America, camera is fixed and X-Y table is used for moving reading material. In such cases if a flat paper and thick book is to be read, the focussing will have to be changed.



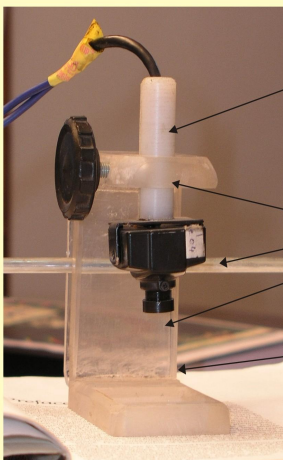
A model having moving camera is also available, but may have tracking problem. These are some drawbacks or disadvantages in conventional system.

By designing special camera and X-Y movement, these disadvantages are eliminated in modified system. The table below shows comparison between standard and modified system. Some attachments for computer connectivity are also developed to increase the utility of the system to do additional activities.

The camera can be mounted in guides on sliding rod to convert this device for writing for longer duration. Some students have written their full 3 hours paper on this device.

Field trials: We have given this set for ten (Partially sighted) students studying in various colleges. At collage test examination all have used this system and are happy to write without writer. The effort is continued to have permission at University exam.

Conclusion: Modified reading and writing device is very well accepted by students, if Such devices are made easily available, problem of providing writers will be eliminated and students also will be able to write themselves. This will help to bring visually challenged students in main stream, which is the objective of inclusive education .



Design of Camera:

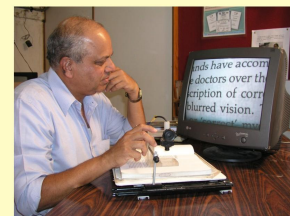
For magnification this rod to be moved up & down by loosening the knob (Lower position increases the magnification)

Camera bracket with slot, for X axis movement

rod acts as tracking guide

Lens for focussing turn to required direction

Platform for reading material



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