Role of Libraries in Facilitating Reading Habits: Use of All Inclusive Assistive Technologies

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Abstract

A habit is not only a settled or regular tendency or practice but is characterized by the fact that it is hard to give up. If libraries are well aware and equipped with technologies which encourages reading habits of ours in the electronic environment but also assist differently abled to gain knowledge, we can really think of an all inclusive knowledge society. These innovative technologies provide an opportunity to libraries as well as individuals to make their reading habit more enriching and comfortable. The present paper is an attempt to study such evaluated and free web-based solutions.

Keywords: Reading habit, screen readers, reading online, Web 2.0 reading tools, Assitive Technologies, Adaptive technologies.

Introduction

With the advancement of e-publishing and proliferation of e-documents now available in wide variety of formats the world is witnessing a multidimensional transformation in the reading habits of the readers. The invention of printing press by Gutenberg was the greatest impetus on print media which initiated reading habit in us. And now the Internet and the web technologies are taking us to a new level of online reading. Today the libraries are finding immense opportunities when it comes to application of such technologies to them. We have also gradually accepted the transition from ownership to access, from print only to print plus online resources. For the library to have all inclusive policy for access to theses valuable e-resources is a challenge. But thanks to several assistive ICT products which can be implemented by the libraries regardless of their types to provide equal access to the disadvantaged.

Changing information need

The reading habit is also governed by the information need. We like to read content which fulfils our information gap. In the last decade, the information need of the users has changed tremendously. This change can also be attributed to the types of information need –sometimes we

need exhaustive information on a micro topic, sometimes we need pin-pointed information on a broad topic. At times we look for reference only while we also need all the studies carried on the same topic. There exists a broad spectrum of information needs and it cannot be constrained to a water-tight-compartment. This varied information need is also inseparably integrated with the Information Seeking Behaviour (ISB) of the people whether a professional, students or a common man. Reading is thus the last step in this process of information acquisition. In order to deal with such complex situation libraries are required to have a heterogeneous collection for the heterogeneous reader community.

We usually enjoy the pleasure of reading printed books as it allows us to read them in our own comfort zone. We can read while relaxing, sitting on our favourite chair or lying on sofa. But today we have the availability of information from a wide variety of sources which has the ability to change earlier reading places. Nate has presented the case of information explosion in his ollowing lines "*There is constant bombardment of information from all possible media. The flood of content disrupts us all day as if we have an maniacal paperboy throwing new editions on our doorstep every 15 seconds."*

As remarked by Kohli (2009) the act of reading a book "makes a unique and powerful contribution to children's reading development. Impressionable minds can be nurtured and molded in ways more than one. Reading sharpens the thought processes of a child. It increases his or attention span by giving himthe faculty of thinking and understanding". The author further remarks that, "reading a book aloud can be a good exercise not just for memorization but also for improvement of speech and vocabulary. Books trigger a child's imagination".

Today the younger generation is in the habit of passing non-stop SMSs giving less priority to reading a book in the peaceful library ambiance. What we are witnessing is the phenomenon where the technology is gradually ruling the dome of individual lives affecting our reading habit.

Reading to learn and learning to read

One can get fun and enlightenment in reading when he is absorbed in the process. It certainly helps a person to be intelligent, knowledgeable, and successful in each endeavor he undertakes in his life. Reading inculcates a person's thinking acumen and sharpens the intellectual horizon. As opined by Kohli (2009), "learning to read is not just a matter of mastering a few simple skills, nor is literacy just a matter of passing a reading test. Learning to read must involve acquiring the reading habit. Literacy must be viewed as the regular exercise of reading skills through reading books".

Reading is a multidimensional entity. It cannot be studied in isolation. The most common companion of reading is perhaps learning. We learn a lot by reading as it enhances our awareness, satisfy quest for information, update our knowledge and provides an opportunity to excel in our profession. This "reading to learn" should be ideally a never ending process as we as information professionals never like to miss a chance to quench our thirst for new knowledge. But as we tend to get less and less time to read (continuously) with our increasingly busy schedules, reading ha become an art. We need reading skills for optimum comprehension and retention. In order to maximize our reading, we need to have necessary reading skills as a 21st century reader. The human civilization is itself the best example of reading to learn. The second aspect interwoven with reading is sharing – whatever we are reading today is possible only because it has been shared by someone.

Moreover, "learning to read is the process of acquiring the skills necessary for reading; that is, the ability to acquire meaning from print. Learning to read is paradoxical in some ways. For an adult, who is a fairly good reader, reading

seems like a simple, effortless and automatic skill but the process builds on cognitive, linguistic, and social skills developed in the years before reading typically begins[1]".

Reading online

With the availability of ICT infrastructure accompanied with high speed bradband connectivity at home, offices, schools, colleges, universities and last but not the least libraries, readers are bound to read online. This online reading is no more limited to desktop PCs but have their strong presence in laptops, tablets and e-book readers. Readers of almost all the age group are becoming more and more familiar with reading online whether on the web browser or sophisticated e-book readers with loads of functionalities. Catching up with these trends publishers are now focussing significantly on creating online contents in the form of e-books, e-journals and other online databases. Today we find online content available in wide variety of formats. Many of these are subscription based while some are available as open access resources. Application developers are equally creating marvellous applications to make the WWW a better place to search, find, read and stay for comparatively longer duration.

Assistive technology devices and services — Hasselbring & Bausch (2005) have mentioned that "such technologies from such high-tech innovations as computer screen-readers for people with visual impairments to lower-tech products, such as head pointers or pencil grips — have aided learning for many students with physical impairments. Positioning devices have enabled students with physical disabilities to join their classmates at tables; auditory trainers have helped those with hearing impairments comprehend instruction in the regular classroom; and portable text-reading devices have enabled learners with sight problems to access information from libraries[2]".

Assistive technologies (Ats)

"*Assistive technologies*" are also called "*adaptive technologies*" are "the electronic solutions that enable people with disabilities to live independently. In the louder sense, "*assistive technology* includes devices that people with disabilities can use to help themselves communicate, learn, travel, do household chores, care for themselves, and have fun. An Assistive Technology device is defined in the Assistive Technology Act of 1998 as amended as any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities[3]". The services of this technology may be further elaborated as, "any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device."

The great feature of assistive technology is that, "blind persons can hear computer-screen text, and Persons with low vision/impairments can enlarge text, enabling independent reading. People who are unable to manipulate a mouse can enter data, and those who cannot physically hear a computer prompt can view prompts. There is also computer software that helps persons with learning differences see and hear the information displayed on the screen[4]".

Need for ATs in libraries

As per the WHO factsheet on visual impairment and blindness (published on October 2013), "285 million people are estimated to be visually impaired worldwide, 39 million are blind and 246 have low vision. About 90% of the world's visually impaired live in developing countries and 82% of people living with blindness are aged 50 and above[5]". According to a report published in the deccan Herald (April 2012), "with 7.8 million blind people in India, the country accounts for 20 per cent of the 39 million blind population across the globe[6]". This

situation is alarming when considered in terms of "access to knowledge" through books and other reading material. Libraries indeed can play a vital role in bringing them to mainstream who are "*visually marginalized*".

Screen readers

Screen reader is the most essential component of assistive technology. "A screen reader is a software application that attempts to identify and interpret what is being displayed on the screen (or, more accurately, sent to standard output, whether a video monitor is present or not). This interpretation is then re-presented to the user with text-to-speech, sound icons, or a Braille output device. Screen readers are a form of assistive technology (AT) potentially useful to people who are blind, visually impaired, illiterate or learning disabled, often in combination with other AT, such as screen magnifiers[7]".

In this context, "the most widely used screen readers[are separate commercial products: JAWS from Freedom Scientific, Window-Eyes from GW Micro, Dolphin Supernova by Dolphin, System Access from Serotek, and ZoomText Magnifier/Reader from Ai Squared are prominent examples in the English-speaking market. The opensource screen reader, NVDA is gaining popularity[8]".

Emerging web technologies for assistive reading

The emerging trends of assistive reading are discussed as under:

Web-based screen readers

This is the latest development of assistive technology to help the targeted readers read online. "These are primarily meant for those who have difficulty reading because of learning disabilities or language barriers. They aim to increase the accessibility of said websites when viewed on public machines where users do not have permission to install custom software, giving people greater 'freedom to roam'. With the development of smartphones, the ability to listen to written documents (textual web content, PDF documents, e-mails etc.) while driving or during a similar activity in the same way that listening to music, will benefit to a much broader audience than visually impaired people[9]".

NaturalReader

NaturalReader is specially designed software to successfully transmit texts into voices. "It is text-to-speech software with natural sounding voices. This easy-to-use software can read to you any text such as Microsoft Word files, webpages, PDF files, and E-mails. NaturalReader can also convert any written text into audio files such as MP3 or WAV. NaturalReader has many other functions, such as audio editor and OCR. OCR function works with the scanner to convert printed characters into digital text and it is up to 99% accurate. This allows users to listen to the printed file or edit it in a word-processing program. It can not only help in proofreading but also helps people with learning difficulties, such as dyslexia, people with vision problems or reading load[10]" and learning foreign languages.

Thunder

Thunder is free screenreader talking software for people with little or no sight. It is available in several languages and works well with Windows 7, Vista or XP.

BrowseAloud

"BrowseAloud adds speech and reading support to online content to extend the reach of websites for those who require reading support. This includes those with dyslexia, learning difficulties, mild visual impairments and those with English as a second language. BrowseAloud is free to use and works with all major browsers. To hear text read aloud from a desktop or laptop computer we need to simply move your mouse pointer over the text. From a touch screen device, a click on the text makes it read aloud[11]". Some

of the new features include:

- Zero implementation and zero download
- Compatibility with all major browsers and devices
- High quality voices and international languages
- Reads secure web pages and PDFs
- Automatic free updates

JAWS

"JAWS (Job Access with Speech) is a computer screen reader paid program for Microsoft Windows that allows blind and visually impaired users to read the screen either with a text-to-speech output or by a Refreshable Braille display[12]". Principally it is intended to read information on the screen using synthesized speech. "JAWS provides many useful commands that make it easier to use programs, edit documents, and read Web pages. With a refreshable Braille display, JAWS can also provide Braille output in addition to, or instead of, speech[13]". JAWS is feature rich and can be customized according to individual requirements and preferences. Panjab University Library, popularly known as A.C. Joshi Library is providing access to e-resources to the blinds through this software.

Assistive technology for visually-impaired users at Queen Mary Library, University of London includes a few effective solutions like computer with large flat screens and scanner along with the JAWS software. It is also serving the visually impaired community with "the screen reader Supernova that works by reading the screen interactively and communicating through a speech synthesiser or a refreshable Braille display".

LibriVox: acoustical liberation of books in the public domain

Librivox (http://librivox.org/) is a non-commercial, non-profit and ad-free project with the objective "to make all books in the public domain available, for free, in audio format on the internet". It is powered by volunteers and it welcomes all volunteers from across the globe, in all languages. The volunteers need to have access to computer, a microphone, some free recording software. LibriVox accept all volunteers in all languages, with all kinds of accents. It facilitates collaborative works also which include many volunteers as well as solo works wherein one volunteer reads an entire book. It also contains short prose and poetry. At the time, the paper was written it has a total of 7082 cataloged titles which includes 996 Non-English works. Books in 34 languages are available.

Conclusion

We all want spend quality time with quality books but it may not materialize on account of time constraints and distractions of the ever changing web. We have multiple roles to play to rectify the situation. We as parents need to regenerate the lost reading habits for ourselves and pass on this gifted habit to our children through motivation and setting examples. As a librarian it is our prime responsibility to save the dying habit and protect it from the dominance of the Internet and the laptop culture. The printed books are not mere things to showcase, rather they need to be absorbed and assimilated. Libraries should also understand that a holistic policy of inculcating reading habit can be achieved if they are also using assistive technologies in their respective libraries for helping those read who have never tasted the enjoyment and satisfaction of reading a good book. This can be done quite easily by implementing a good quality screen reader and other assistive technologies for readers having visual problems. Assistive Technologies (AT) has the potential to open up new worlds for people who are blind or have low vision. It can bring people who are blind closer in line with their sighted counterparts and it is the need of the hour that libraries take part in this revolution. It is crucial

that librarians are aware of such AT in order to establish equality and quality with the other patrons in the library.

Notes :

1. http:/ www.brain.angeliessex.com
2. www.paec.org
3. disabilities.temple.edu
4. http://ala.org/ala/mgrps//divs ascla/
5. www.who.int
6. news.in.msn.com
7. medlibrary.org
8. rebeccaballard.com
9. rebeccaballard.com
10. naturalreaders.com
11. www.browsealoud.com
12. en.wikipedia.org
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