
Web Usability and Its Influence on the Online Reading Strategies of the 'Digital Native' Students

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Abstract

The Online Reading is preferred among the Higher Education students extensively, irrespective of their branch of study, their demographic background and reading Interest. "Young Adults (18-29 years) are more likely than older adults to read books on electronic and several other formats on a variety of devices" (Perin, 2018). The other factors which contribute for the online reading are the affordable gadgets, easy availability of network connectivity and huge chunk of E Resources on the web. The Online Readers have an umpteen number of Web resources to read but the most sought after source is the website. The web Usability of a website, is a broad term denoting how practically usable and convenient a website is designed that decides the number of visitors and the time spent by them during their visit to the site. The Reading strategies are the deliberate style of reading and comprehending the information. Each and every student has their own style or bunch of strategies to read the print and the online material..

Keywords

E-Reading; Websites; Web Usability; reading strategies; E Resources and patrons.

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Introduction

E Reading is the most preferred mode of gaining knowledge, owing to its affordability and wide use of Electronic products and Internet connectivity in the market. The E- version of Newspaper, Magazines and Books are highly sought after than the print version. The digital natives or the current generation who are well versed in the use of gadget tend to project themselves as E-Readers due to trending "E" culture and craze. The pandemic has also added to the situation by urging the people to read from their own gadgets rather than getting in touch of print resources. Though there are several choices to access the necessary information on the web, the most convenient are the websites, which are the preferred ones to satisfy the student's information requirement due to convenience of accessing it easily and instantly, without the need of remembering the links. The designing of a website should be done with its usability as the top priority rather than any other features, as the web usability of a webpage decides the no of users and the time spent by the visitors in it. The E-Reading indirectly or indirectly dependent on the designing of usability of the websites.

E-Reading and its Strategies

"Strategy" is a word derived from Greek word "strategia". It means generalship or the art of war and implies planning, conscious manipulation, and movement towards a goal (Oxford, 1990). Reading Strategies are the "deliberate conscious actions, identifiable by the readers and by intention and select goals" (Paris, Lipson & Wixson, 1983). Dole illustrates that the Reading strategies are conscious and flexible plans emphasizing reasoning that readers apply and adapt to a variety of texts in order to construct meanings from texts (Dole et al., 1991). Reading Strategies are an indicator of how a task is conceived, the text cues attended during reading, how text is perceived and sensed and how a text is understood (Block, 1986).

The E-Reading strategies don't differ much with physical reading strategies. Many of the aspects of physical reading are exactly same that of E-Reading, like text processing which involves a number of processes. The process sometimes occurs parallel or sequentially one by one (Kinstch & Van Dijk, 1978). Leu and Reinking (1996) opined reading as an interaction between the reader and the text. In physical reading only the reader is active whereas the text and the reader are both actively engaged in E-

Reading as it involves hypertext, hypermedia and multimedia

Paris et al. (1999) classifies reading strategies into three groups as

- i. Before reading,
- ii. While- reading
- iii. After- reading.

The strategy before reading the text involves *previewing* of the text. The strategies while reading are the text identifying the main concept, making inferences which may be said as *Text Inspection*. The strategy involved after reading is the *summarizing* the content(Paris et al.,1999). In a study on the screen reading strategist was found that the training in the use of strategies in reading could enhance the screen reading of the students(Kol&Schcolnik,2000). Brown(1978) classifies the strategies into two types in the perspective of Educational Psychology which are used by almost all students for comprehending the texts at any context of reading.

Cognitive Strategies:- They are specific learning tasks used to help an individual achieve a particular goal(understanding a text).

Meta cognitive Strategies:- The deliberate and conscious control of our cognitive actions. Metacognitive strategies like skimming and scanning are used for extraction of required information without a deeper level analysis. The metacognitive strategies of reading can be honed by training and practice.

Two recent studies have focused on the measuring the Meta cognitive strategies of Reading of the second language learners in Meta cognitive Awareness of Reading Strategy Inventories(MARSI)(Mokhtari&Sheorey,2002) and its ESL (English as Second Language) adapted version, the survey of Reading Strategies(Mokhtari&Reichard,2002).These two inventories present three types of Reading strategies .

i.Global Strategies :- The strategies are intentional and includes the *cognitive strategy*,Leamer’s carefully plan to monitor their reading,such strategies include having a purpose in mind, previewing the text, checking how the content fits its purpose, noting the text length and the way its organized and predicting its meaning.

ii. *Problem solving Strategies*:- The problem solving strategy deals directly with that part of how the reader confronts with difficult texts and the efforts to understand it, visualizing the information a *meta cognitive strategy*, adjusting the reading pace, resolving conflicting information and Re-reading the texts for better comprehension.

iii.*Support Strategies*:- They are localized actions taken by the reader to aid comprehension such as high lighting, checking Dictionaries, taking notes, translating from one’s mother tongues to target language

Integrating the Reading strategies with Information Literacy program

Macmillan and Rosenblatt(2015) proved that the students reading may be enhanced by incorporating the Reading strategies and activities into the Information Literacy Curriculum. They have elaborated in their blogs various ways to incorporate reading strategies awareness programs to develop the critical thinking skills of the students, which is most required for higher education. The emotion developed by the new entrants of higher education towards difficult text reading is focused. The students may learn to overcome the emotions developed during reading difficult texts by encountering it in the Library Instructional program. Brun– Mercer (2019) has identified three main strategies for Online Reading along with the other reading strategies.They are 1.Focus on the purpose 2.Determine the credibility 3.Consolidation of Information and keep track of the sources.

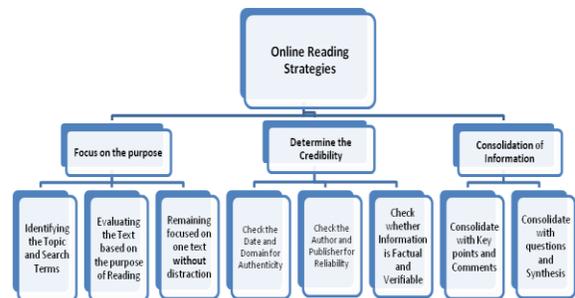


Figure 1 : Online Reading Strategies for Classroom (Brun-Mercer, 2019)

Web Usability

There are several definitions proposed in different context for the term “ Usability”. Part Eleven of the International standards ISO9241(Ergonomic Requirement for office work with visual display terminals) elaborates the guidance of the Usability. It defines Usability as “The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.” In this definition effectiveness means the accuracy and completeness, efficiency refers to the resources expended in relation to the accuracy and completeness with which users achieve specified goals and comfort relates to the ease and acceptability of use.

The recommendation of the ISO 9241-11 has become the standards for the specialists in Usability. The widely adopted definition is the Nielsen’s which provides a detailed model of the constituents of the Usability. According to Nielsen’s definition Usability refers to i)Learnability (ii)Efficiency (iii)Memorability (iv)Few Errors (v)User’s Satisfaction.

The usability of websites is called as Web Usability.Abran and Khelif(2003) listed a number of central characteristics of Usability like i. Efficiency ii. Effectiveness iii. Satisfaction iv. Security and v.Learnability.

Effectiveness– The effectiveness of website is the deciding factor of its Usability but there exists an inverse relation between Effectiveness and Security. The security is at stake if the effectiveness is high. The designer of the site needs to provide less complex easy to use interface with warning messages and signs in a simple language for any user to understand.

Efficiency- Efficiency attributes like speed and accuracy must be assured along with security. It’s a security compromise to have efficiency in good level especially when it comes to content distribution. Efficiency is said to be the most sensitive aspect of Web Usability.

Satisfaction- The user satisfaction is a basic element of web Usability. The user’s never return or visit a site again if they are not satisfied with the website so to retain the users and increase the use of websites the satisfaction of user’s is an important criteria.

Learn ability- The ease of learning the ways to use a website is a deciding factor of the usability of the Website. The design of a website is said to be optimized if learn ability and security is balanced.

The social aspects related to usability in the design of website and layouts are

- i. *Navigation*: Ease of movement from home page to other pages or vice versa.
- ii. *Color Palette*: Selection of colors, shades and its consistency in the pages
- iii. *Personal Data*: Assurance of confidentiality of User’s personal data.
- iv. *Provision for Change* or Change Management in the website.
- v. *Feedback & Review Management*.

Guidelines for Web Usability

There are a number of guidelines for Web Usability developed by International and National bodies and Individuals.

- i. Improving web usability and its Appeal: Microsoft Web Workshop(Keekar,1997).
- ii. IBM Web Design Guidelines (IBM,2000).
- iii. Web Design : The Complete Reference(Powell,2000.)
- iv. Designing Web Usability: The practice of simplicity(Nielsen,2000)

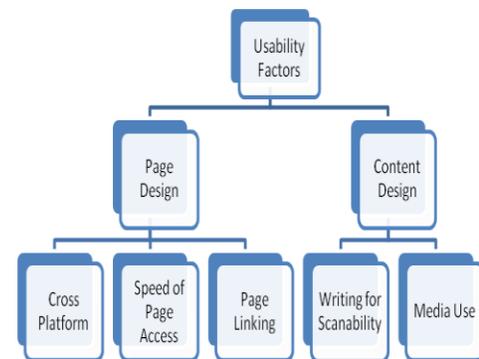


Figure 2 : Nielson’s factors of Web Usability (Shiratuddin & Landoni, 2003)

v. *HHS Guidelines*–The (Koyani et al., 2003,2004) Guidelines by National Cancer Institute, part of the US Department of Health and Human Services(HHS)with a sum of 187 guidelines derived from 375 cited publications for Web Design and Usability for their Information Oriented Websites. The guidelines are not exhaustive and are aimed for Information purpose and lack representations about E-Commerce sites.

vi. *ISO Guidelines* - The International Standard ISO-9241-151 developed by international experts nominated by standard bodies for the user centered

design of Web User Interfaces. These guidelines are both general and also for specific sites. The International guidelines are comprehensive for some topics like navigation and search.

vii. *JISC Guidelines* - A list of 121 guidelines for Academic websites by JISC, Joint Information Systems Committee for Higher Education, UK. It is primarily focused on how educational websites should be designed. It has nearly all the guidelines similar to HHS along with some guidelines by Academic webmasters. The guidelines for JISC (Bevan & Kincla, 2003) have the following set of guidelines.

- a) A list of 121 guidelines most relevant for Academic Websites.
- b) A tailored set of 85 guidelines for producing online courses
- c) Customized guidelines for Digital Libraries, Portals and Personalization.

Influence of web usability on the E Reading strategies-

Kucukoglu (2013) found in a survey about the effect of reading strategies on the Academic performance of 14 students and listed nearly six strategies which are most pertinent for reading and Learning. They are i. Predicting ii. Visualizing iii. Making Connections iv. Summarizing v. Questioning and vi. Inferring.

Sahni and Dubey (2014) analyzed the issues challenges and solutions for the Web Usability and listed a number of factors, issues and proposed solutions for the issues. The factors, parameters and how it influences the Online Reading strategies are discussed below.

Web Usability parameters and its Influence on the Online Reading Strategies

Web Usability Factors	Parameters	Enhanced Online Reading Strategies
Site Identifiers	Efficiency	i. Site Identifiers helps to understand the basic aim and objective of the website. ii. The <i>Preview strategy</i> is dependent on the clarity with which the site's homepage is designed with the basic necessary details about itself. Unless the aim and purpose of the site is clear, the Previewing is not a possible strategy to adopt by the students.
Texts Readability	Overview ability	i. Web-Text should be readable to visualize and understand the whole content of the web page. the <i>Visualizing Strategy</i> renders the reader the ability to visualize the whole Text and thereby over viewing the entire content of the web portal. ii. The webpages must have the continuity of the theme content from the homepage. The text readability helps the users to read and assimilate the knowledge in the home page as well as in the following webpages in a whiff by the young minds.
Marquees and constantly running Animation	Effectiveness	i. Helps in <i>Text Inspection</i> strategy of reading. Ease of scrolling helps to inspect the text consistently. Marquees help to learn the latest and prominent information of the website theme which adds to the effectiveness of the site ii. Animation offers visual ideas of the content. It helps to grasp the pertinent information with ease of remembering and recalling whenever required.
Invisible Links & Complex URLs	Navigation	i. The Home page and other pages must be interlinked and all the additive pages must have a link to Home page of the website to aid the students to go to home page ii. Complex URL's are decoded by the users to understand the structure of the website. It should have Human Readable directory and files. iii. Ease of navigation through various invisible and visible links within and outside the website helps in adopting the " <i>Making Connection</i> " reading strategy, important for analyzing the text and gathering different data. iv. Proper positioning of the Navigational elements is pertinent.

Image Implementation	Color Palette	<p>i. The color consistency among the pages is required for the convenient <i>scanning or skimming of the texts</i>.</p> <p>ii. Colors play a pivotal role in conveying the theme of the website. Blue color is globally used for telecommunication theme whereas each religion has its own prime color which should be used for their websites.</p> <p>iii. Consistency in color is a basic requirement to make the user feel their virtual presence in the same portal and not been traversed to other sites.</p>
Protection of user's Personal Information.	Security	<p>i. To win the students's trust on the site, the security of the user's Information must be asserted in the website which in tum helps in adopting Cognitive <i>reading strategies</i>.</p> <p>ii. The Confidentiality of personal data is an essential element these day and the user's must be given the assurance that their personal Information is in safe hands which in tum helps to follow the cognitive reading to fulfill their purpose of the reading</p>
Web design	Learnability	<p>i. The web design must be captivating to encourage more visitors, re- visit and also virtually sustain the reader's presence in the website. More the time spent in the website, better reading strategies could be adopted by the users .</p> <p>ii. Ease of learning the website lay out, web pages and the way of using helps in applying <i>Meta-cognitive strategies of reading</i>.</p>
Language	Condensability	<p>i. Language style and flow of the website is an essential aspect for summarizing the content to the required format to meet the purpose of the website visit. Unless the language flow is simple and lucid, the content cannot be aligned and condensed.</p> <p>ii. <i>Summarizing Reading strategy</i> is applied by all the readers irrespective of age, gender and educational status to add the content of the site to their existing knowledge.</p>
Review/ Feedback and Change Management	Intractability	<p>i. Interaction or the Questioning of the visitors is possible only when a full - fledged Review/Feedback mechanism is available in the website.</p> <p>ii. <i>Questioning strategy</i> can be abided, only if the usability factor of Review/Feedback in the site is well planned.</p> <p>iii. Change management is highly dependent on the intractability of the web design. Feedbacks from the viewers are collected from the old site with the new design of the website pinned/attached to it. The necessary modifications in the newly designed website are made as per the feedback received from the visitors and published.</p>
Browser Compatibility and Ease of scrolling.	Derivability	<p>i. Inferring the data and concepts understood from the website is related to many usability factors like Ease of scrolling between the pages and outside the site. Browser compatibility, network speed etc.</p> <p>ii. Avoiding the Advertisements and pop-ups are also contributing factors to help in reading continuously and to summarize and utilize the knowledge for the required purpose.</p>

Conclusion

The reading habit of the print resources is day by day declining and online reading is the order of the day among the youngsters. By planning the web usability in a more flexible and learnable way the Websites of Higher Educational Institutes can become more approachable and practically usable. The online Reading strategies are invariably dependent on the web usability which in turn relies on the web design. The Web Usability decides the usage of any website,

be it Educational or Government organization. The usability of educational and Information websites must be designed considering all the parameters and features which augment the reading and learning through the website hence the usability and web design should consider the reading strategies for better utilization of the websites.

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