

## WEB 2.0 TO LEARNING 2.0: UNDERSTANDING THE CONCEPT

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### ABSTRACT

Ongoing years have seen enormous development in the most current age of Web 2.0 based instruments, in particular wikis, online journals, social networks, webcasts and so forth. It is not mandatory to have highly specialized aptitudes and skills to utilize these tools. The World Wide Web innovation pronounces Web 2.0 as the pattern which expects to smooth the advance data sharing, inventiveness, and cooperation among users. These advancements allow community-oriented content creation, peer appraisal, developmental assessment, reflection, on learning and user-driven *a la mode* data in regards to changes in collective spaces. This paper clarifies the idea of web 2.0 and additionally explains the learning ideas working under this umbrella term. The paper additionally brings various branches of learning 2.0 into light which has been created on the basis of web 2.0.

**KEYWORDS:** Web 2.0, Learning 2.0

### INTRODUCTION

The present advancements in media technology and their usability in learning and also instruction framework encourage people to relate them in new ecologies of learning. Especially, Web 2.0 innovations like collaborative websites, wikis and the RSS procedure require users to possess a combination of certain aptitudes and so as to perform and take care of issues in this computerized climate which can be termed as digital literacies (Gilster, 1997, Inoue, Naito & Koshizuka, 1997; Pool, 1997). Lately, enormous development has been seen in the freshest age of Web 2.0 based apparatuses in particular wikis, online journals, informal communities, web recordings which is confirmed by the developing number of publications regarding the same and the numerous cases of online instructive administrations that have embraced the utilization of these devices. A user is not required to have highly specialized abilities to utilize these resources and it has resulted into the birth of a new term “Transparent Technology” (Wheeler, Kelly and Gale, 2005). The World Wide Web innovation announces Web 2.0 as the pattern which plans to smooth the advance sharing data, inventiveness and collaboration among users.

Web 2.0 innovations allow attractive practices, for example, community-oriented content creation, peer appraisal, developmental assessment, individual and also group reflection on learning encounters and user-driven avant-garde data with respect to changes in collective spaces (Eshet-Alkalai, 2004).

The World Wide Web (commonly known as the web) is not synonymous with the internet but is the most prominent part of the internet that can be defined as a techno-social system to interact humans based on technological networks. The notion of the techno-social system refers to a system that enhances human cognition, communication, and co-operation; Cognition is the necessary prerequisite to communicating and the precondition to co-operate. In other words, cooperation needs communication and communication needs cognition (Mahmud & Muhammad, 2009).

## **Web Generations**

At first, Tim Burners-Lee in 1989 presented the idea that Web is the largest transformable-information construct. Much advance has been made about the web and related advances in the previous two decades. Web 1.0 as a web of discernment, Web 2.0 as a web of correspondence, web 3.0 as a web of co-activity and web 4.0 as a web of assimilation are presented (Aghaei, Nematabkhsh, and Farsani, 2012). Web 1.0 is known as the first generation web and read-only web as indicated by Berners-Lee. Web 1.0 started as a data put for organizations to communicate their data to individuals. The early web gave a restricted user communication or data contribution and just permitted to look through the data and read it. Web 2.0 was characterized by Dale Dougherty in 2004 as a read-compose web. The advancements of Web 2.0 permit amassing and overseeing vast worldwide population with basic interests in social connections. Web 3.0 or semantic web wants to diminish human's assignments and choices and abandon them to machines by giving machine-lucid substance on the web. Web 4.0 will be as a read-write-execution-concurrency web with smart connections, yet there is still no correct meaning of it. Web 4.0 is otherwise called harmonious web in which human personality and machines can cooperate in advantageous interaction.

## **Web 2.0**

Darcy DiNucci, an information architecture consultant, coined the term “Web 2.0” in her 1999 article, “Fragmented Future” (Web 2.0, n.d.): *“The Web we know now, which loads into a browser window in essentially static screenfuls, is only an embryo of the Web to come. The first glimmerings of Web 2.0 are beginning to appear, and we are just starting to see how that embryo might develop. The Web will be understood not as screenfuls of text and graphics but as a transport mechanism, the ether through which interactivity happens.”*

Tim O'Reilly is generally credited with popularizing the term, following a conference dealing with next-generation Web concepts and issues held by O'Reilly Media and Media Live International in 2004.

## **Difference between Web 1.0 and Web 2.0**

**Web1.0** is the “readable” phrase of the World Wide Web with flat data. There is an only limited interaction between sites and web users. It is simply an information portal where users passively receive information without being given the opportunity to post reviews, comments, and feedback.

**Web2.0** is the “writable” phrase of the World Wide Web with interactive data. Unlike Web 1.0, Web 2.0 facilitates interaction between web users and sites, so it allows users to interact more freely with each other. It encourages participation, collaboration, and information sharing. Examples are Youtube, Wiki, Flickr, Facebook, and so on. The term Web 2.0 was officially defined as a read-write web in 2004 by Dale Dougherty, vice-president of O'Reilly Media, in a conference brainstorming session between O'Reilly and Media Live International.

Tim O'Reilly defines Web 2.0 on his website as follows (O'reilly, 2006): "*Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people to use them.*"

Web 2.0 is also known as the wisdom web, people-centric web, participative web and read-write web. One of the outstanding features of Web 2.0 is to support collaboration and to help gather collective intelligence web (Aghaei, Nematbakhsh &Farsani, 2012). Web 2.0 is a neat term, reflecting a new version of the Web in the language of computer science. However, although the term describes new technologies that have emerged over the last few years, "Web 2.0" reflects as much a social as a technological development. At the same time, Web 2.0 has been given an educational twist, through the parallel term "E-learning 2.0" (Downes, 2005), which involves e-learning based on Web 2.0. While the terms "Web 2.0" and "E-learning 2.0" suggest a clean break from earlier applications of the Web, in education the differences, although significant, is due more to a gradual development and evolution of tools and teaching practice than a sudden "big bang." Some understanding of the history of the application of information and communications technologies (ICTs) in education is important in order to provide the necessary context for understanding Web 2.0 in education (Bates, 2011).

### **Web 2.0 Technology: A Range of Technologies**

**Table 1**

<b>Web 2.0 technologies</b>	<b>Description</b>	<b>Category of technology</b>
Wikis, commenting, shared workspaces	Facilitates co-creation of content/applications across large, distributed set of participants	Broad collaboration
Blogs, podcasts, videocasts, peer to peer	Offers individuals a way to communicate/share information with a broad set of other individuals	Broad communication
Prediction markets, information markets, polling Harnesses	the collective power of the community and generates a collectively derived answer	Collective estimation
Tagging, social bookmarking/filtering, user tracking, ratings, RSS	Adds additional information to primary content to prioritize information or make it more valuable	Metadata creation
Social networking, network mapping	Leverages connections between people to offer new applications	Social graphing

**Source:** Chui, Miller & Roberts, 2009

### **Learning Concepts Behind Web 2.0**

As far as learning is concerned, Web 2.0 effects on four aspects of the student's experience among which Collaboration and publication are comprehensively social in nature and literacies and inquiry are more psychological (Selwyn, 2008, p. 9).

#### **Collaboration**

Web 2.0 administrations bolster correspondence. They enable students to coordinate to different degrees of profundity. Web 2.0 may offer instructors an arrangement of apparatuses to motivate and help them to create such type of

teaching-learning methodologies which are more collaborative and help in building a community among classrooms.

## Publication

The read-and-compose character of Web 2.0 backs the user for making unique and novel material for production. The moderately unbounded space of web 2.0 can offer a solid sentiment of doing real research when others can share and examine the results of their study.

## Literacies

As students get to interact with digital artifacts while using Web 2.0, the educational modules must address the test of building up their certainty with new skill levels and their expanded potential for inventiveness.

## Inquiry

Web 2.0 advancements offer students the new arenas for individual research. It makes new structures for arranging information, new sources to allude to, new types of dominance and new instruments to cross-examine this rich space of data.

## E-Learning 2.0

Web 2.0 apparatuses are so moderately new to training that instructors presently can't seem to discover new frameworks for teaching-learning process that make complete utilization of such devices. Most uses to date have been inside the structure of an educator controlled model of teaching. For example, educators may create their own blog for an online course, or urge learners to work in an asynchronous way and later post their work back in the "instructing" territory. All things considered, there is currently an expanding number of cases of using Web 2.0 in the arena of teaching and learning that take advantage of student's ability to access, create and publish content. Stephen Downes (2005) depicted the utilization of Web 2.0 advancements for educating and learning as "e-Learning 2.0" (Bates, 2011).

## Branches of E-Learning 2.0

### Social and Collaborative Networking

Before the development of the Web, the first educational tool on the internet was discussion software that enabled multiple numbers of users to have online discussion asynchronously in a common area (CMC—Hiltz, 1986). This innovation has continuously developed through discussions into network-based community systems. Social programmes enable learners to test, question and develop their own, customized learning. Community-oriented workspaces are easy to make and they enable individuals to together team up on complex tasks utilizing easy straightforward apparatuses" (Johnson, Levine Smith, 2008). These collective workspaces function as center points where individuals having common likings and interests can accumulate and share assets identified with their interests.

### Interactive Media Archives

Multimedia documents, for example, YouTube, Flickr, and Google Video and the expanding access to shabby computerized camcorders or coordinated video and sound chronicle in cell phones, now empower students to make their own advanced e-arrangement of work fusing content, illustrations, sound, and video. This implies students would now be able to go out and do hands-on work in the local area and create multimedia-based portfolios showcasing their work on the web (Lorenzo & Ittelson, 2005).

## Synchronous Technologies

Tools that allow synchronous two-way communication (mainly audio, supplemented with graphics such as PowerPoint) take advantage of improved compression technology and wider bandwidth capacity and can also be organized and managed by end-users or learners for communication. Certainly, for certain educational tasks such as learning a language, these tools provide much more flexibility than the previous generation of web tools.

## Virtual Worlds

Virtual worlds (or Massively Multiplayer Virtual Worlds—MMVWs) are complex digital environments that allow participants to project a non-physical presence of themselves—an *avatar*—into a generated-three-dimensional (3-D) reality, and within that reality to interact with other participants. Users can build and modify this world to a large degree. The National Oceanic and Atmospheric Administration, USA have built immersive environments where participants can virtually experience tsunamis and simulated weather fronts, combined with explanations about the causes and strategies to reduce harm. Hydro Hijinks, developed by students at Montgomery College, USA, is a diplomacy adventure game set in a scenario where farmers are suffering a water shortage, and players have to discover the cause of the water shortage. There are several projects in SL in the language learning domain, involving the creation of environments where learners can practice languages and meet other foreign language speakers.

## Digital Games

There have been major advances in games technology over recent years. A few games have been designed or adapted for educational purposes (“serious gaming environments”), mainly for the K-12 sector (Prensky, 2006). However, educational games to date have had limited application and utility, mainly because of the high cost of development and lack of appropriate and sound instructional design (Burgos, Tattersall, & Koper, 2007). Nevertheless, there is a strong potential for taking some of the building blocks of games technology, such as “off-the-shelf” software for scenery animation, hand-eye coordination and crowd behavior and adapting them for educational purposes, thereby cutting down the cost of building all software from scratch.

## Mobile Learning

Worldwide, more people have mobile phones than personal computers. The rapid expansion of wireless technology has stimulated interest in mobile learning—delivery of education and training to people on the move. However, as mobile technology has become more sophisticated, with larger, clearer screens, touch-controlled keyboards and motion controlled navigation, the potential for educational applications has also increased. (Alexander, 2004; JISC, 2005).

## Open Content

Another major development has been the move to digital open content. Institutions such as the Massachusetts Institute of Technology (the MIT Open Course Ware initiative at <http://ocw.mit.edu/>) and The Open University in the UK (the Open Learn website at <http://openlearn.open.ac.uk/>) have been making available their educational content free of charge for educational purposes. Intellectual property management and recognition of the instructors’ contribution to content creation has been managed through cooperative copyright management sites such as Creative Commons (<http://www.creativecommons.org/>), which allows instructors to make available content with some protection against improper or commercial use. The move to more open content has several implications. Teachers and learners now have an

increasing range of quality-assured learning materials that they can access, free of charge, for educational purposes. Teachers no longer need to create all their own material online; learners are no longer restricted to the content and curriculum provided by the university or college at which they are enrolled. Thus, one can imagine an “open content” approach to a subject, where the instructor is a guide, providing goals and criteria for assessment, but where the students track down, assess and organize appropriate learning materials (Bates, 2011).

## CONCLUSIONS

All of this has the potential to empower the student as an independent learner but it also brings challenges to both learner and teacher. Web 2.0 knowledge structures are not navigated with the same tools or the same ease as more traditional documentary collections. It poses problems of authority and the ephemeral nature of web ‘knowledge’. Web 2.0 tools appear to strengthen fundamental aspects of learning that may be difficult to stimulate in learners. There are problems with Web 2.0 learning in practice, but these tools do seem to make a step change in the ways in which learners can interact with and on the web.

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