II. INTRODUCTION

Information Communication Technologies (ICTs) have great influence in teaching, learning, education, research, extension, administration, marketing, library information services and other scholarly and professional activities through improved communication and access to information. ICTs have greatly simplified acquisition, organization, storage, retrieval, provision and usage of information. ICTs have greatly enhanced access to a range of current and latest information resources. We are utilizing a concept of information based on different subprocesses of information that take place in human life and are technically supported by ICTs. These are cognitive, communicative, and co-operative processes. Cognitive processes (including emotional ones) are individuals, or intra-subjective processes of generating information.

Abstract: Effects of World Wide Web (WWW) and Internet have continually been noted in business, production, education, politics, governance, culture, social, communication, defense, space research and all other aspects of human life. We identify qualities of the Web, namely Web 1.0 as a Web of cognition, Web 2.0 as a Web of human communication. Web 2.0 technologies makes tasks like your search for reports, documents, research papers, thesis, images, videos, audios, movies and other data faster and easier. Web 2.0 have spread widely among the people in the world over the past nine years. Web 2.0 provides the user with more user-interface, software and storage facilities, all through their browser. This has been called “network as platform” computing. Major features of Web 2.0 include social networking sites, user created web sites, self-publishing platforms, tagging, and social bookmarking. These sites may have an “architecture of participation” that encourages users to add value to the application as they use it. Instead of multiple searches, you might type a complex sentence or two in your Web 2.0 browser and the Web will do the rest. The Web 2.0 provides agricultural information management in mainly agriculture and related sciences (forestry, veterinary, wildlife, food science, environment, rural development, soil, and others). Web 2.0 technology is important for effective and efficient acquisition, storing and accessing the agricultural information.

Keywords: Web 2.0, World Wide Web, Agricultural information, Library, Cognition, Communication.
people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation," and going beyond the page metaphor of Web 1.0 to deliver rich user experiences.

Web 2.0 provide the user with more user-interface, software and storage facilities, all through their browser. This has been called “network as platform” computing. Major features of Web 2.0 include social networking sites, user created web sites, self-publishing platforms, tagging, and social bookmarking. Users can provide the data that is on a Web 2.0 site and exercise some control over that data. These sites may have an "architecture of participation" that encourages users to add value to the application as they use it. Some scholars have put forth cloud computing as an example of Web 2.0 because cloud computing is simply an implication of computing on the Internet. As the popularity of Web 2.0 has grown, companies have noted the intense consumer engagement and creativity surrounding these technologies. Web 2.0 serves the global network community for agricultural information users across the country and beyond.

Cooperative processes are integrative, concern the supra-individual level and let information emerge from synergetic effects of communicating subjects. Originally, Computer-Supported Cooperative Work researched this topic from the perspective of the involvement of ICTs. Nowadays, this approach takes advantage from research in collective intelligence, wisdom of crowds and so on. Social-networking Web 2.0 sites, such as Youtube, Flickr, Blogger, Twitter, Facebook, Wikipedia, Wordpress and MySpace, now attract more than 700 million visitors a month.

II. Web 2.0 Technology

- Users are both readers and writers
  - Generate content
  - Control content
- Ever-increasing amounts of content
  - Dynamic content
- Users participate
  - Communication
  - Collaboration
- Users add value to applications as they use it
  - Collective intelligence by way of user participation
- Rich user experience
  - User-friendly interface
  - Personalized content
- The Web as a programming platform
  - Run applications entirely through a browser
A Web 2.0 site may allow users to interact and collaborate with each other in a social media dialogue as creators of user-generated content in a virtual community. Examples of Web 2.0 include social networking sites, blogs, wikis, video sharing sites, hosted services, web applications, mashups and folksonomies. Web 2.0 websites allow users to do more than just retrieve information. They provide the user with more user-interface, software and storage facilities, all through their browser. This has been called “network as platform” computing. Major features of Web 2.0 include social networking sites, user created web sites, self-publishing platforms, tagging, and social bookmarking. Users can provide the data that is on a Web 2.0 site and exercise some control over that data. These sites may have an “architecture of participation” that encourages users to add value to the application as they use it. Some scholars have made the case that cloud computing is a form of Web 2.0 because cloud computing is simply an implication of computing on the Internet. The concept of Web-as-participation-platform captures many of these characteristics. Bart Decrem, a founder and former CEO of Flock, calls Web 2.0 the “participatory Web” and regards the Web-as-information-source as Web 1.0. Web 2.0 offers all users the same freedom to contribute. While this opens the possibility for serious debate and collaboration, it also increases the incidence of “spamming” and “trolling” by unscrupulous or less mature users. According to Best, the characteristics of Web 2.0 are: rich user experience, user participation, dynamic content, metadata, web standards and scalability. Further characteristics, such as openness, freedom and collective intelligence by way of user participation, can also be viewed as essential attributes of Web 2.0.

**Key features of Web 2.0 include**

1. Folksonomy: Free Classification of Information
2. Rich User Experience
3. User as a Contributor
4. Long Tail
5. User Participation
6. Basic Trust
7. Dispersion

A third important part of Web 2.0 is the Social web, which is a fundamental shift in the way people communicate. The social web consists of a number of online tools and platforms where people share their perspectives, opinions, thoughts and experiences. Web 2.0 applications tend to interact much more with the end user. As such, the end user is not only a user of the application but also a participant by:

- Podcasting
- Blogging
- Tagging
- Curating with RSS
- Social bookmarking
- Social networking
- Web content voting

The popularity of the term Web 2.0, along with the increasing use of blogs, wikis, and social networking technologies, has led many in academia and business to append a flurry of 2.0's to existing concepts and fields of study, including Library 2.0, Social Work 2.0, Enterprise 2.0, Classroom 2.0, Publishing 2.0, Medicine 2.0,
Telco 2.0, Travel 2.0, Government 2.0, and even Porn 2.0. Many of these 2.0s refer to Web 2.0 technologies as the source of the new version in their respective disciplines and areas.

Blogs, wikis and RSS are often held up as exemplary manifestations of Web 2.0. A reader of a blog or a wiki is provided with tools to add a comment or even, in the case of the wiki, to edit the content. This is what we call the Read/Write web. Talis believes that Library 2.0 means harnessing this type of participation so that libraries can benefit from increasingly rich collaborative cataloging efforts, such as including contributions from partner libraries as well as adding rich enhancements, such as book jackets or movie files, to records from publishers and others.

III. Web 2.0 tools

Web 2.0 tools are very useful in this respect for language teachers for a number of reasons:

1. It has always been difficult to build the expected applications that were part of Web 1.0 (or earlier generations of computing), although it has been/is still being tried;
2. We have had exercises in various guises: BASIC, Authorware, Flash, JavaScript – Hot Potatoes is probably now the most widely known version; arguably a Web 2.0 service;
3. The Internet does provide a useful resource of all kinds of authentic material, most of it is free at the point of delivery – Wikipedia; YouTube etc;
4. There is a range of tools that can enable us to be social in all sorts of ways:
   a. Textually: This can be achieved with blogs and wikis, or with collaborative writing software, like Google Docs. Chat is also text and tools like MSN, or Google Talk, can be used to rehearse spoken language in writing. Other tools where text is very important are forums, which have formed the backbone of online education up until the recent past.
   b. Orally: As well as being used for text chat a tool like MSN or Skype can be used for spoken communication. Until quite recently the communication was one-to-one, but now groups can speak together.
   c. Visually: MSN, Skype, Adobe Connect Professional, Elluminate, WizIQ and other similar tools can be used for video conferencing exchanges. These tools add a visual dimension to the interaction.
   d. Aurally: Podcasting.

New ways to get information: Today, Internet surfers can subscribe to a Web page's Really Simple Syndication (RSS) feeds and receive notifications of that Web page's updates as long as they maintain an Internet connection.

Expanding access to the Internet beyond the computer: Many people access the Internet through devices like cell phones or video game consoles; before long, some experts expect that consumers will access the Internet through television sets and other devices.

IV. WEB 2.0 Services

At the core of this third option is the collection of services known somewhat vaguely as Web 2.0. Whereas the early Web was primarily one-directional, allowing a large number of users to view the contents of a comparatively small number of sites, the new Web 2.0 is a bi-directional collaboration in which users are able to interact with and provide information to central sites, and to see that information collated and made available to others. Wikipedia (http://www.wikipedia.org; Dee, 2007) provides a compelling and well-known example, in which individuals are able to provide the contents of a vast encyclopedia that is managed by a comparatively small group of reviewers and administrators. Such services typically provide for extensive loosely structured metadata; in the case of Wikipedia, for example, users are able to access the complete history of any entry, including all previous versions and edits.

The issues provoked by Web 2.0 services are immediately evident when one compares Wikipedia with traditional mechanisms for compiling encyclopedias. Instead of an elaborate administrative structure that recruits a number of contributors, waits for their inputs, compensates them, and edits, compiles, and prints the results, a process that often can last for years, Wikipedia is assembled continuously, contributions appearing
instantaneously. Contributors are entirely volunteers, and in many cases without any professional qualifications. Errors are often caught by users, or by reviewers, and result in edits. But Wikipedia lacks the authority conveyed by a recognized publisher, by an extensive process of review and edit by experts, and by the qualifications of its contributors.

Many examples already exist of Web 2.0 services designed to acquire, assemble, and publish geographic information. Wikimapia (http://www.wikimapia.org) is a service operating on similar lines to Wikipedia, allowing citizens to provide descriptions of places of interest to them, along with geographic coordinates. Each entry is comprised of a rectangle aligned with latitude and longitude, together with a text description. At time of writing there were 4.2 million entries, including descriptions of most of the buildings on the campus of the University of California, Santa Barbara, along with numerous places of interest in the surrounding area. Entries are vetted, again by a group of volunteers, and must meet a number of criteria. 4.2 million is an interesting number in this context, because it is roughly the size of the world’s largest gazetteers, which are lists of recognized placenames with geographic locations. For example, the Alexandria Digital Library gazetteer (middleware.alexandria.ucsb.edu/client/gaz/adl/index.jsp) is approximately of this size, having been compiled from various official US Government sources. Traditional gazetteer entries are highly structured, consisting of triples of the form <name, location, type> (Hill, 2006), and using a controlled vocabulary to define types. By contrast, Wikimapia is a volunteered gazetteer, produced entirely by individual citizens, and potentially providing much richer descriptions of places that may include hyperlinks. Other sites in this genre include Flickr (www.flickr.com), with its collection of over 21 million (at time of writing) geo-referenced photographs; and the increasing proportion of entries in Wikipedia that have been geo-referenced.

At a higher level of sophistication are projects in which volunteers contribute substantial technical content. For example, OpenStreetMap (www.openstreetmap.org) is building a public-domain street map of the entire world through volunteer effort. Each contributor develops a map of his or her local streets using GPS tracking; and individual contributions are assembled and reconciled into a single patchwork. Extensive metadata is incorporated, since each piece of the patchwork may have different levels of accuracy and may have been acquired at different dates. Some level of expertise is required in the use of GIS and the project’s software, in the basic principles of geographic measurement, and in the project’s system for classifying streets. In a similar vein Inrix’s Dust Network is tracking some 500,000 vehicles on U.S. highways to provide real-time data on congestion (http://www.inrix.com).

At a third level of sophistication are those services that allow contributors to make their own comparatively complex information available to others within easy-to-use Web 2.0 environments. Google Earth is perhaps the best-known of these services, its client software having been downloaded more than 1 billion times since its first release in 2005. Google Earth’s Application Program Interface (API) allows any user to create and publish new content, in the form of layers that can be viewed over the Google Earth imagery base, or mashed with it. Tens of thousands of sources, many of them developed by citizens with no prior experience in geographic information technologies, have taken advantage of this mechanism in recent months, so that today it is possible to find on the Web overlays depicting all of the places found in the life and novels of Jane Austen (bbs.keyhole.com/ubb/showflat.php?Cat/0/Number/411188/and/0/page/0), historic maps of many areas of the world (many maps from the David Rumsey collection, www.davidrumsey.com, are available in Google Earth’s Featured Content), the campaigns of Alexander the Great (bbs.keyhole.com/ubb/download.php?Number=126402), three-dimensional representations of the buildings of central London (bbs.keyhole.com/ubb/download.php?Number=420893), and the subway system of many cities (bbs.keyhole.com/ubb/showthreaded.php?Cat/0/Number/579229/page/0/vc/0c/1). All of these are viewable using the intuitive interface of Google Earth. All of them have been volunteered, in many cases by citizens with purely altruistic motives. Fast and efficient ways to share content: YouTube is the perfect example. A YouTube member can create a video and upload it to the site for others to watch in less than an hour.

**The problem of choosing information**

- Find the information
- Extract relevant information
- Interpretation by human users
- Synthesis
  - Content in different languages (Spanish, Russian, Japanese, Chinese, ...)
  - Find out relevant information from heterogeneous sources
  - Extract
  - Interpretation
  - Aggregation
  - Consistency of the information
V. Challenges of Web 2.0 Technology

The new technologies web 2.0 provide new challenges related to acquisition, preservation, maintenance and security issues, training of users, and lack of awareness and commitment among key stakeholders.

VI. Conclusions

Web 2.0 provides the user with more user-interface, software and storage facilities, all through their browser. This has been called "network as platform" computing. Users can provide the data that is on a Web 2.0 site and exercise some control over that data. These sites may have an "architecture of participation" that encourages users to add value to the application as they use it. Instead of multiple searches, you might type a complex sentence or two in your Web 2.0 browser and the Web will do the rest. The web 2.0 provides agricultural information management in mainly agriculture and related sciences (forestry, veterinary, wildlife, food science, environment, rural development, soil, and others). Web 2.0 technology is important for effective and efficient acquisition, storing and accessing the agricultural information.

True two-way communication

Web 2.0 are true two-way communication which facilitate and emphasise two-way interactive communication provide opportunities for people to realise the two-way symmetrical model of communication that holds to be more ethical and more effective than one-way information communication.

Breakdown of the control paradigm

Beyond using the enabling tools of the ‘social web’, Web people need to adopt and convince their management to adopt the philosophy, values, principles and culture of Web 2.0 and its future iterations.

New skills to engage in online conversations and conferences

We need to re-learn media relations, as traditional media databases no longer provide the contacts needed, and bloggers and other social media authors usually do not accept news releases and rarely attend interviews or conferences. Online video conferences and online seminars are held nowadays using Web 2.0 technology.

Issues of privacy and reputation

Also, people should be at the forefront of identifying and establishing guidelines for practices in relation to Web 2.0. ‘Ruthlessly’ harvesting citizens’ profile data for use in marketing is likely to lead to major concerns over privacy and trigger public protests, 2

Also, issues of privacy and reputation are also found. Web 2.0 expands the understanding of the social from Durkheim and Weber to Tönnies and Marx, it is a system of online collaboration that enables the formation of virtual communities, co-operative knowledge, and cooperative labour. There are many benefits for agricultural information management in future on the Internet but there are also many challenges which must have clear solutions if there is to be significant growth in technology uptake.

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