A Paradigm Shift in Distance Education: Web 2.0 and Social Software

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ABSTRACT

The term of "new technological paradigm" is become an indispensable concept for all educational organizations. Consequently there is a growing necessity to describe what the term technological paradigm is. With the gaining speed of technological changes, a new dimension of educational and training paradigm is being formed. The sources of this paradigm are, flexibility and providing rich learning environments for all students. Therefore student's roles had changed from passive to highly interactive in the historical development of distance education. In this paper, evolution of Web technologies from Web 1.0 to Web 2.0 as a sub-dimension of distance education is being decribed theoretically. Besides, reflections of this evolution for all educational organizations are taken in hand with the perpective of the term of social software.

Keywords: Distance education; web 2.0; social software.

INTRODUCTION

The world has been in a process of structural transformation for over last twenty years. This multidimensional and structural transformation process is associated with the emergence of a new technological paradigm that is based on information and communication technologies (Castells, 2006, p.3). All organizations are in transition today. Transition in the structures of organizations is the key concept of the 21 st century (Lee, 2001, p.117). All organizations and institutions are faced with some significant shifts, resulting from the impact of emerging technologies and a global economy. The source of these shifts can be analyzed by following challenges:

- **Changing patterns of competition, trade and technological innovations**
- **Exponential growth of knowledge**
- **Worldwide social concerns for general quality of life**
- **Global demand for education (Haddad, 2001, p.11).**

Also the social structure of the society is being influenced by these mentioned following challenges. In the 21 st century, the emerging society is being characterized as information or knowledge society (Castells, 2006, p.4). Furthermore the emerging society can be called as network society.

The structure of network society is made of networks and powered by microelectronic-based information and communication technologies (Castells, 2004, p.1).

Information and communication technologies have an enormous power and effect on a networked society. These technologies have been used increasingly in education as a sub institution of society. As a result of intensive using of information and communication technologies in education, new study fields and new disciplines are appeared. Distance education is one of the new concepts that is popular all over the world. Wall-less education, distance teaching, independent study, flexible learning, distance learning, life long learning and individualized learning are the common used concepts that are defined distance education (Demiray, 2005, pp.1-3).

Distance learning environments are building up day by day. Virtual classrooms, two-way interactive audio, video, synchronous and asynchronous computer based interactions are being added on distance education. In the 21 st century, more hybrid distance learning environments can be combined in one virtual classroom as www.,internet etc. (Williams, Paprock and Covington , 1999, pp.4-5).

HISTORICAL DEVELOPMENT PROCESS OF DISTANCE EDUCATION

Historical development process of distance education environments represents the way that distance learning technologies have evolved through the years. (Williams, Paprock and Covington , 1999, pp.3-5). Williams, Paprock and Covington (1999, p.4) indicate the historical development process of distance education environments by using a figure below.

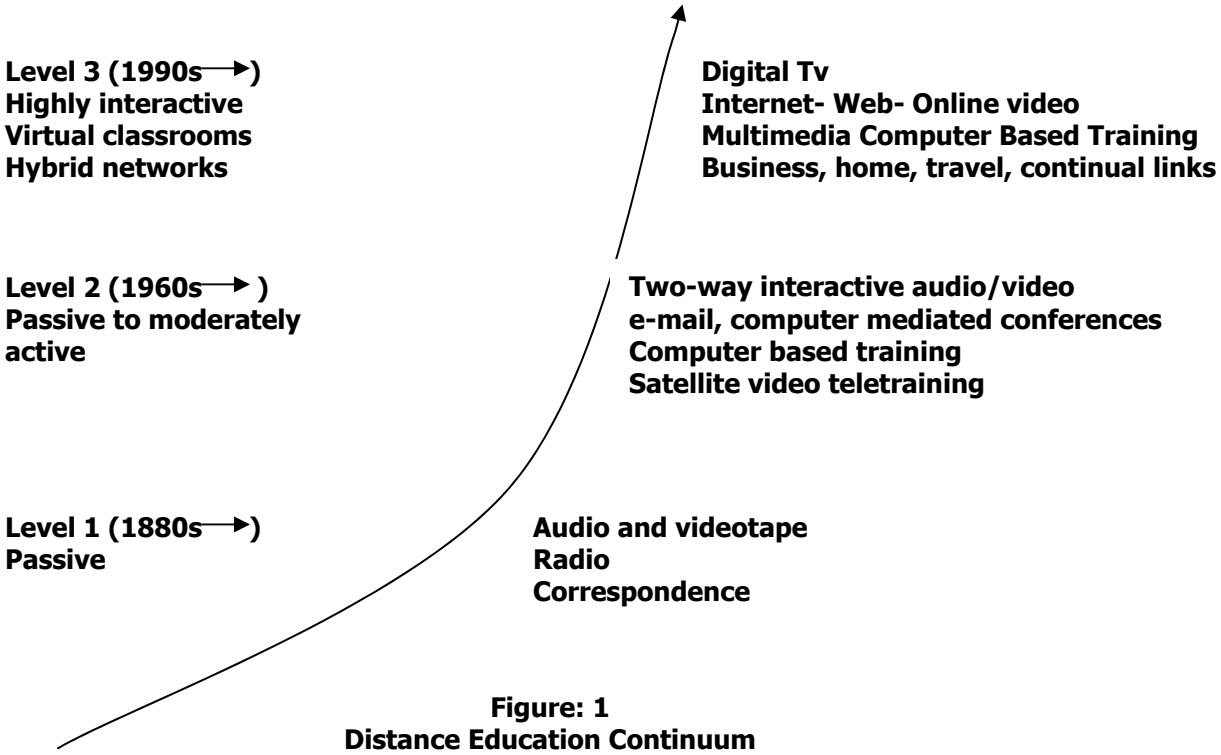

Figure: 1
Distance Education Continuum

As it can be seen in Figure 1, Level 1 is being described as passive distance learning. In this level, the students don't have any chance for interactivity. This type of environment called as asynchronous distance learning environment. Also Level 2 is being characterized as passive to moderately active distance learning. These distance learning environments are synchronous because of the two way interactivity. Finally Level 3 is being defined as highly interactive. Level 3 also consists of hybrid distance learning environments in addition to the capabilities of Internet (Williams, Paprock and Covington, 1999, pp.4-5).

When the historical process of distance education is being observed, it can easily be seen that, there is no single concept of learning through the use of information and communication technologies. Online training, computer assisted learning, web-learning, virtual learning, digital training are the different types of information and communication technologies that can be used in distance education (Punnie and Cabrera, 2006, p.17).

Distance education has a vital role shaping the knowledge society. With the gaining speed of technological changes, a paradigm shift in distance education could be occurred. New kinds of information and communication technologies are being used in distance education. Social software and Web 2.0 are the new and popular concepts in distance education.

SOCIAL SOFTWARE

Social software is a kind of software, that users can contribute their content, and therefore this content gets richer, or more accurate and more people can use it (Styles, 2006, p.2). Social software includes providing mentoring, building community, meeting, personal learning assistance, reducing communication errors, working collaboratively on projects or problems, and supporting complex group functions. Social software applications can be used in education and social software can be maximized individual freedom of people by allowing continuous enrolment and self pacing (Anderson, 2005, p.4). The term of social software is being described as tools which support the social relationships between people using the web. Social software makes facilities by richer using of the web (Mathiasen and Dalsgaard, 2006, pp.5-7).

The concept of social software includes some communication tools (Wikipedia, 2007):

- **internet messaging**
- **Text Chat**
- **internet forums**
- **Blogs**
- **weblogs**
- **wikis**
- **social network search engines**
- **social network services**
- **social guides**
- **social bookmarking**
- **social libraries**
- **peer-to-peer social networks**

The concept of social software refers the scope of applications which enables social connections, groups interactions, shared web spaces for collaboration and information exchange in web based environments. The term of social software is the major component of Web 2.0. (Bragg, 2007, p.3).

WEB 2.0

In the 21 st century, a series of technological developments are being occured. One of the new technological development is called as Web 2.0. This term states a renaissance for web resources and tools by containing colloboration and social interaction. Web 2.0 includes community learning and collaborative learning in a social process. (Owen, Grant, Sayers and Facer, 2006, pp.9-11). Schneider, (2006, p.4). analyzed the historical evolution process of learning technologies generally by using a schedule below:

Table: 1
The Evolution of Learning Technologies

1960's- 2010's	**Instructor- Led Training**
1970's- 2010's	**Sound-Video-Multimedia**
1980's- 2010's	**Computer Aided Learning**
1990's- 2010's	**Office Applications**
	Assesment Tools
	Interactive Communication Tools
	World Wide Web
	e-learning 1.0
2000's-2010's	**e-learning 2.0**

Adapted from Schneider, 2006, p.4.

E-Learning describes as using of internet technologies for creating and delivering a rich learning environment. This learning environment includes a broad series of solutions, information resources and instruction. The goal of e-Learning is enhancing the individual and the organizational performance (Rosenberg, 2006, p. 72). In Web 1.0, students can access the content that created by someone else. However, in Web 2.0, students can design their own content (Arsun and Kuru, 2006, p.13). O'Reilly (2005) formulated Web 2.0 by some of the examples:

Table: 2
Some Comperative Characteristics of Web 1.0 and Web 2.0

Web 1.0	**Web 2.0**
Britannica Online	**Wikipedia**
Personal Websites	**Blogging**
Content Management Systems	**Wikis**
Directories (Taxonomy)	**Tagging (Folksonomy)**

Adapted from O'Reilly , 2005

Web 1.0 describes as collection of web sites (read only web sites). Current trends of web technologies and tools are changed today. E-Learning 2.0 and Web 2.0 (read and write web sites) are the popular concepts for all organizations. Styles (2006, pp.3-5) stated the paradigm shift that Web 2.0 initiated in publication history.

Table: 3
Evaluation of Web 2.0 and Chance of Publication History

Wikis	➢ **With the evaluation of Web 2.0 the most popular encyclopedia is no longer Britannica** ➢ **Now it is Wikipedia**
Podcasting	➢ **Podcasting is a key feature of Web 2.0** ➢ **People can use their portable players or i -Tunes**
Blogs	➢ **The concept of blogs are easy to use for publishing** ➢ **Blogs can recerive feedback on ideas before they are published**
Really Simple Syndication (RSS)	➢ **This technology can help people to manage information overload**

Adapted from Styles, 2006, pp.3-5

Web 2.0 represents a new era of paradigm shift. In this era, there is a transition from traditional software to internet services (Bray, 2007).Transition from the traditional view of e-learning to the dimension of technology aiming collaborative nature of learning refers e-Learning 2.0. e-Learning 2.0 contains:

- **Discussion forums**
- **Blended learning**
- **Virtual classrooms**
- **Podcasts**
- **Mobile learning**
- **Games**
- **Blogs,**
- **Wikis etc. (Wassall, 2006, pp.2-3; Hruby and Wooden, 2006, p.52; Drasil and Pitner, 2006, p.1).**

By using social software, students have three main communication modes:

- **One-to-one communication includes e-mail and instant messaging**
- **One-to-many communication includes web pages, blogs**
- **Many-to-many communication includes wikis (Marhan, 2006, p.210).**

CONCLUSION

Changing information and communication technologies affect organizational and management structures of institutions. Therefore institutions must reconstruct their organizational structures in view of the technological speed of change as creating flexible and rich learning environments for people. With the gaining speed of technological progress, information and communication technologies are opening up new facilities for learners and learning (Williams and Goldberg, 2005, p.728; Khan, 2007, p.1). Rapid technological progress introduce new terms in recent years. The term paradigm shift is being used often in the 21 st century. The paradigm shift in distance education refers to the transition process.
New concepts, models and terms are differ from the old ones. Paradigm shift in distance education means substitution of the new educational terms with the old ones. This indicated paradigm shift includes a transition from modern curricula to post-modern curricula and also includes a transition from traditional learning to digitized formats of learning (Peters, 2003, p.25). This paradigm shift is about a shift from tutor centred teaching to a learner centred learning.

Audio, video, digital multi-media (including audio, video and incorporating text), texts (including still graphics) and direct (face to face) human contact are the most important media that are used in distance education (Bates, 2005, p.44). Furthermore, components of distance education are changing. Distance learning environments are becoming highly interactive and are being supported by hybrid networks and virtual classrooms (Williams, Paprock and Covington , 1999, pp.4).

Punnie and Cabrera (2006, p.23) specified some technological trends that will shape the future of knowledge society:

- **Broadband Internet access is becoming more widespread, especially in well-advanced economies, driven by peer-to-peer file sharing and always on features**
- **Weblogs or blogs are becoming a major source of information and communication for internet users**
- **Podcasting could be a driver for mobile learning**
- **Short Message Services (SMS) and the Multimedia Messaging Services (MMS) are also becoming important providers of new content and offer ways for people to be mobile and share information**
- **Open source software and open source content are challenging existing software and content developers, including educational institutions**

Social software and Web 2.0 also the new components of distance education. This new concepts are shaping the future educational goals. Anytime, anywhere flexible and high-quality learning environments containing well organized support services are the main expectation of students in the information age (Khan, 2007, p.1). Therefore, social software can be used in education in the process of changing goals and expectations. For this reason some key characteristics of social software must be analyzed for distance education as indicated below:

- **Social software delivers communication between groups**
- **Social software has new tools for creation of knowledge**

- **Social software enables communication between many students**
- **Social software provides sharing resources**
- **Social software assists personalisation of priorities**
- **Social software delivers collaborative indexing and collecting information (Owen, Grant, Sayers and Facer, 2006, pp.12-13).**

Rapid developments in social software technologies such as wikis have enormous reflections in educational organziations. Social software applications become more popular. Developing, editing, reorganizing facilities of web based content provide students to share knowledge with their friends and their teachers. Therefore social software have role to develop collaboration between students (Choy and Ng, 2007). Social software tools have developed in recent years. Weblogs, Flickr, deli.cio.us as photo or bookmarking systems, Myspace, Youtube and Facebook as an example of sites are the popular trends to develop and share the information with society. These collaborative tools are emphasized the importance of social software for all organizations (Minocha, Schenks, Sclater, Thomas and Hause, 2007, p.9). Basic principles of Web 2.0 and Social software can be summarized by three dimensions:

- **Student- center design: Students can develop their own knowledge**
- **Teachers and students as peers in a social network**
- **A transition process: It includes a transition from traditional learning environment to open learning resources and environments (Huertas, Casado, Corcoles, Mor and Roldan, 2007, p.7).**

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