E -LEARNING TOOLS FOR TEACHING AND LEARNING

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> **Abstract:** The impact of IT in real life is translated/moved also in education by "e-learning" that means the use of multimedia technologies and Internet or using the virtual learning environment. The tools for e-learning are very divers and must be known of the educators for using them in a proper way in a teaching and learning process, student-centred, for having at the end a real transformative learning process.

> **Keywords:** e-learning, e-learning tools, synchronous tools

In nowadays, teaching and learning ways shift their former significance, under the huge impact of virtual learning technology, from the transmissional, through transactional until transformational way of learning. That means e-learning and its tools have an important role because e-learning leads to transformative learning, taking into consideration the same three phases involved into it, like in transformative learning: critical reflection, reflective discourse, action.

Critical reflection is converted in thinking about what tools, offered by virtual learning environment, could be used more easy and effective for accomplishing the objectives of learning.

Reflective discourse and action, the second and three phases after critical reflection (the first phase), consist in using the e-learning tools, chosen in a previous phase, for a good and efficient learning.

From the long list of e-learning instruments, knowing that everyday new tools get develop, we can select some of them, classified in:
A.   *Synchronous tools*
B.   *Asynchronous tools*

A. Synchronous tools

1. Chat-room

Online chat may refer to any kind of communication over the Internet that offers an instantaneous transmission of text-based messages from sender to receiver; hence the delay for visual access to the sent message shall not hamper the flow of communications in any of the directions. Online chat may address as well point-to-point communications as well as multicast communications from one sender to many receivers.

One can differentiate two technical forms:

• *Pure online Chat*: Chat rooms are offered completely online, with no need to install any program on the local computer;

• *Instant-Messaging*: After downloading a special program to the local computer (client) the user can integrate his friends and colleagues, which also have access to the same Instant-Messaging client. Instant-Messaging falls under the umbrella term online Chat since it is also text-based communication done in real-time, but is distinct in that it is based on clients that facilitate connections between specified known users (often using contact list, buddy list, or friend list), whereas online "chat" also includes web-based applications that allow communication between (often anonymous) users in a multi-user environment.

Instant messaging (IM) is a set of technologies used for text-based communication between two or more participants over the Internet. Of importance is that online chat and instant messaging differs from other technologies such as email due to the perceived synchronicity of the communications by the users – chat happens in real-time. Some systems permit messages to be sent to users not then "logged on" (offline messages), thus removing some differences between IM and email (often done by sending the message to the associated email account).

It is usually possible to save a text conversation for later reference. Instant messages are often logged in a local message history, making it similar to the persistent nature of emails.

IM allows effective and efficient communication, allowing immediate receipt of acknowledgment or reply. In many cases, instant messaging includes added features which can make it even more popular. For example, users may see each other via webcams, or talk

directly for free over the Internet using a microphone and headphones or loudspeakers. Such Instant-Messaging systems are close to video-conferencing systems. Many client programs also allow file transfers, although they are usually limited in the permissible file-size.

Typical Instant-Messaging Client Programs are:
- ICQ
- MSN-Messenger
- Yahoo!-Messenger
- Skype

Sometimes E-Mail-Providers offer Instant-Messaging ability in their webpages, which can be used in a web browser with no need to download and install the IM client (Examples: Gmail, Yahoo, Hotmail)

and two "social" forms:
- *Private Chat*: only among known people;
- *Public Chat*: anonymous users in a multi-user environment.

Sometimes other virtual-learning-tools include a Chat to provide the possibility to communicate, while using the tool. Examples are:
- nearly all learning-platforms
- mind-mapping tools (e.g. the to-pay-versions of MindMeister)
- collaborative-writing tools (e.g. Titanpad)

2. Video-conferencing

A video-conference (also known as a video teleconference) is a set of interactive telecommunication technologies which allow two or more locations to interact via two-way video and audio transmissions simultaneously.

Video-conferencing differs from videophone calls in that it's designed to serve a conference rather than individuals.

In the context of education, video conferencing can provide a tool for broadcasting lectures to distant students. This is mainly one-way communication but video conferencing can also be used for more interactive ways of learning. It is possible for students to ask questions, comment on different aspects of the lecture or to organize a small-group discussion on some paper.

When using video conferencing it is very important to take care of a few preparations. Besides testing of the technology and the connection well in advance, the organizer should inform the students about technical and other preparations needed before the conference.

Students should receive concrete and clear guidelines on the technology and be aware of its basic features. Furthermore, they should be aware of the good practices of behaviour and communication over a video conference.

Within blended-learning solutions, video conferencing may prove to provide a simple way to get a face-to-face contact with distant students for instance at the beginning, in the middle or in the end of a course. Students may ask questions about the learning process, assignments etc. and the teacher may inquire students' experiences and feelings after a self-study period. Video conferencing can also be used for paper presentations and discussions by the students.

Examples for video-conferencing systems are:

- AdobeConnectPro
- Vyew
- DimDim

Another well-known tool which can be used for simple video-conferences is: Skype

3. Live streaming

Live streaming is a technology that refers to presentation of audio-visual media content live over the Internet. Content is constantly received by and presented to the user while being delivered by a streaming provider. The transmission resembles broadcast television but takes place over the Internet.

A webcast is a media presentation distributed over the Internet using streaming technology to distribute a single content source to many simultaneous listeners/viewers. A webcast may either be distributed live or on demand. Essentially, webcasting is "broadcasting" over the Internet.

Technically, live streaming involves a camera for the media, an encoder to digitize the content, a media publisher where the streams are made available to potential end-users and a content delivery network to distribute and deliver the content. The media can then be viewed by end-users live.

A nice Web 2.0 service for live-streaming is UStream (http://www.ustream.tv). The website offers the possibility to live stream from your computers webcam or even your smartphone with a few clicks. There is a free version with advertising and ad-free versions. Parallel to the live-stream you can include a Chat for viewers.

4. Internet Broadcasting

Internet Broadcasting (formerly Internet Broadcasting Systems), or IB, is a provider of Websites, content and advertising revenue solution to the largest and most successful media companies in the world used also for educate people.

5. Forum

An Internet Forum is an online discussion site where people can hold conversations in the form of posted messages. They differ from Chat rooms in that messages are at least temporarily archived. Also asynchronous interaction is possible. Depending on the access level of a user or the forum set-up, a posted message might need to be approved by a moderator before it becomes visible. A discussion forum is hierarchical or tree-like in structure: a forum can contain a number of sub forums, each of which may have several topics. Within a forum's topic, each new discussion started is called a thread, and can be replied to by as many people as wish to. Depending on the forum's settings, users can be anonymous or have to register with the forum and then subsequently log in in order to post messages. On most forums, users do not have to log in to read existing messages.

In educational settings a Forums can always be used, when discussions are to take place. As it is a typical asynchronous tool sufficient time should be planned for the discussion to take place.

Usually any learning-platform will have its own Forum, but there are also websites providing the possibility to create your own free forums like http://www.freeforums.org/ (Ad-Free).

6. Second Life

Second-Life is a Virtual World or, technically speaking, a "multi-user virtual environment", started in 2003 as a project by "Linden Research, Inc." doing business as "Linden Lab". Users need to create an account and download a Viewer, which will enable them to interact with the other users (called "Residents") through avatars. Residents can explore, meet other residents, socialize, participate in individual and group activities, and create and trade virtual property and services with one another, or travel throughout the world (which residents refer to as "the grid"). There is also a tool based around simple geometric shapes that allows a resident to build virtual objects. A unique feature of learning in Second Life, as in other Multi-User Virtual Environments, is the perception of immersion in an alternate world.

Second Life is considered by many as a promising tool for education and training in general. While Second Life can certainly support the

traditional teacher-centred form of education, it also supports and encourages more student-centred, transformative forms of education. Individuals using Second Life interact in various ways and, even if the interaction is mediated by their avatars, their cultural background is reflected in the interaction.

Second-Life surely has a great potential for education and training but that there are also a number of challenges to overcome:

• a significant time is needed for a newcomer to understand the way Second Life functions (even for someone with very good computer skills and online experience);

• student acceptance of Second Life as an educational tool;

• technical problems;

• a steep learning curve;

• lack of privacy;

• the potential for distraction and disruption caused by avatars unrelated to the class;

• potential exposure to misinformation and pornography.

Thus, the ideal situation which would maximise the potential use of Second Life in education would be:

• a pre-defined tutorial showing only exactly what is necessary for the users to perform the tasks implied by the simulation;

• the possibility to teleport directly at the location where the simulation takes place, avoiding the general entry areas;

• ensuring privacy of the location of the simulation;

• providing appropriate training for the educators/tutors/facilitators of the simulation.

This implies some costs, especially for buying virtual property and for providing the possibility of directly teleporting users to a specified location. Link: http://secondlife.com/

Such kind of tools require new training programs which prepare and support educators in shifting from being providers and delivers of subject matter content to moderators and facilitators of learning within student-centred approaching to learning.

Will be continued with *Asynchronous tools*, in the next issue.

Bibliography:

Herlo, D., 2005, *Tehnologie informaţională computerizată*, Editura Universităţii „Aurel Vlaicu" Arad
https://virtualedicc.wiki.zoho.com