# Chapter 16
# Future Tools for Sharing Knowledge:
## Virtual Communities in the Web3D

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## ABSTRACT

*The goal of this chapter is to encourage an open discussion about current and future technological support for knowledge sharing and learning. This support can be especially beneficial for communities of practice, where technology can bring increasingly geographically distant companies and knowledge closer together.*

*The chapter introduces new technologies based on emergent Web3D and which can improve current ways of sharing knowledge and providing eLearning support. These are 3D virtual worlds as knowledge sharing tools and the concept of serious games as a way for improving learning processes.*

*An application that combines both technologies would unite the main features of constructivist learning theories, and therefore, be a useful tool for supporting communities of practices' learning and knowledge flow in a very dynamic way.*

*This chapter also suggests what ideal tools for knowledge sharing and learning on Future Internet could be like, the advantages that their use could provide and the factors the authors believe should be improved to turn this ideal tool into a reality.*

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## INTRODUCTION

The appearance of Web 2.0 tools has changed the way people communicate. Until their appearance, the traditional Web (called now Web 1.0 in order to distinguish it from the current web) was an almost unidirectional way of transmitting information. People created their web pages and filled them with contents, but there was no feedback from other users to complement these contents.

Nowadays, the proliferation of *blogs*, forums, instant messaging tools and *wiki*s (in other words, Web 2.0 technologies) provides a new communication scenario in which communities with similar interests can share their comments and knowledge in real time.

One of the factors that has contributed these tools' great success has probably been their ease of use. Very little technical knowledge or specific expertise is needed to use them. They are almost *universal* tools. And they have been very widely accepted. Nowadays, for example, Facebook has more than 400 million active users (statistics, 2010).

With regard to the use of Web 2.0 tools for sharing knowledge in the working environment, LinkedIn (LinkedIn Home Page, 2010), considered to be the biggest professional network, has more than 200,000 interest groups. Users share comments and information with other users with the same interests.

This level of acceptance means that knowledge sharing is not only easy but also fast. Fast, on the one hand, in that Web 2.0 tools provide real time communication. On the other hand, they are so widely accepted that it is easy to find groups sharing common interests and with huge numbers of active members willing to share their expertise. The combination of these two factors means that knowledge flow is quicker than when using other tools.

Reports about Future Internet are starting to talk about the up-and-coming web (es.Internet, 2009; Portal, 2010). According to these reports, one of Future Internet's objectives is to evolve the paradigm of users as content consumers and producers, introduced by Web 2.0, towards a new stage in which web services will be completely interactive and collaborative for all users. Another factor that is being introduced is the Web3D: one of the features of the new generation of web tools will be the inclusion of simulations of real life by means of 3D contents and immersive environments.

Only time will allow us to see the validity and success of these new trends. However, some advantages and disadvantages can be stated now, and that is this chapter's objective. The aim is to encourage an open discussion about the disadvantages of current Web 2.0 based tools and the possibilities that a new, more collaborative and immersive web can provide for overcoming them.

The chapter starts from the hypothesis that technological solutions that can be useful for communities of practice are more useful include **collaborative working possibilities, immersion and learning validity.**

Taking this into account, the next section presents a state-of-the-art analysis of current Web 2.0 tools for collaborative work and learning. Virtual world characteristics and serious games that can improve Web 2.0 tools' knowledge sharing and learning are then explained. Section 5 lists the features that can be useful for CoPs and Section 6 suggests factors that should be improved in next generation tools. Finally, conclusions are presented.

## STATE OF THE ART

### Web 2.0 for the Technological Support of CoPs

The state-of-the-art in collaborative tools for knowledge sharing and creating virtual communities is based on Web 2.0 tools.