# Chapter 3

# Innovative Approaches for Realization of Electronic Textbooks and Didactic Tests:
## Drupal CMS, Google Forms, Learningapps

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## ABSTRACT

*The implementation of information technology (IT) in the process of studying different subject areas, the realization of the possibilities of the educational information interaction, and the potential of the allocated informative resource of the local and global networks are main tasks for the contemporary lecturer. By solving these tasks, the intellectual potential of the learner can be developed and not only habits for self-acquisition of knowledge can be attained but also skills for obtaining, processing, transmition, and production of the necessary information. The authors' purpose is to showcase the rich capabilities of some freely available web applications and platforms such as the content management system (CMS), in particular CMS Drupal for the creation of educational web sites and electronic learning materials. Some of the newest specialized applications such as Google Forms and LearningApps for creating electronic tests and integrating the educational game approach to IT training have also been explored.*

## INTRODUCTION

The formation of knowledge-based information and communication environment is a basic manifestation of global computerization. In its foundation stands the man capable of studying the new and creatively presenting it to the others, the person involved in the process of creation and use of new knowledge (Robert, Panyukova, Kuznetcov, & Kravcova, 2008). Such a specialist is formed only through an educational system aimed at expanded development of individual creative abilities. This is an educational system aimed at the future and, in this sense, becoming a leading factor for the economic development of society. An educational system that prepares not only qualified staff for whom knowledge is the most important source of personality development but personnel with skills for acquiring, processing, using (implementing) and spreading knowledge as basic (formal) competences. In other words, in the basis of such an educational system is the informatization. The informatization of the society and the informatization of education become mutual and aiming. In the context of the modern information society and in the context of national educational strategies of countries, such issues as the development of e-learning materials become important for both the educational theory and for the world and national practice.

In this book chapter we are guided by the statement that *Education in all time ... works in an innovative regime* (Knodel, 2014) and the concept that the education category is related to the concepts of "training", "development" and "innovation" (Knodel, 2014).

If 20-30 years ago, the main teaching materials were made on paper, today the training is inconceivable without developed free information systems, ensuring the use of all the information masses currently available to the public. Lately, there is almost no university, which does not open major in the distance learning form. It is a fact that many professors on their university web sites continuously publish study materials and teaching aids to help students. In most cases, published training materials are "static" - as PDF files or text files that have included pictures and charts. But the Internet provides much more options than the electronic form of printed books and supplies. Internet offers various free and easy-to-use by non-programmers electronic platforms for textbook creation, also platforms for creating electronic tests and educational games on a competitive principle. This book chapter looks at examples of using Content Management Systems (CMS) for creation of electronic learning tools and tests. A detailed example of how to use Drupal CMS to create eTextbook and eTest will be discussed. Since the authors' purpose is to show free web applications (web sites), by which not only academic lecturers, but primary and secondary school teachers can diversify teaching using skillfully

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