Chapter 5
About the Psycho–Pedagogical Requirements to Electronic Resources on Basic Engineering Subjects and Realization in Teaching Electro–Energetics

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ABSTRACT
This chapter considers an integrated approach to the development and study of the problems of designing electronic resource bases to create an open virtual learning environment for educational organizations, as well as the creation of electronic resource base, focused on the needs of the university, using the latest information and communication technologies. The chapter goal is analyses professors’ Larisa Zaynutdinova and Vardan Mkrtchian last publications about the psycho-pedagogical requirements of electronic resources on basic engineering subjects and online education and virtual information sciences and technologies is Astrakhan State University and realization in teaching electro energetics using www.wizIQ.com plus Triple H-Avatar Cloud Private Platform of HHH University.

INTRODUCTION
Currently, the higher education institutions are presented with numerous requirements in the field of educational, financial, economic, legal and international activities, as well as by society (social, information, service, etc.). Modern conditions and regulations clearly define the need to create higher education institutions of high-tech educational systems. The purpose of this chapter - to show an example of the university and the main features of the design issues of the resource base of the open educational envi-

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environment is not only theoretical but also practical level. A practical solution to most problems is impos-
sible without the of education system, including the introduction of electronic document management 
in higher education institutions, as well as the creation of information and educational resources (Order 
Concept of long-term socio-Economic development of the Russian Federation for the period till 2020 “) 
than was largely conditional upon the relevance of the development of electronic resource bases to create 
an open virtual learning environment of the university. The relevance of this work to date is that Russia 
still cannot find the spread of the world famous online-courses are built using the latest information and 
communication technologies on the platform of WizIQ. The development of such a trend in distance 
education is many ways to help improve the education system as a whole and ensure its transition to a 
qualitatively new level – online education. In practical life information support of high school - is a daily 
necessity, due to ever-increasing amount of information required to optimize the educational process, 
improve the quality of education and, more importantly, minimize paper document. Setting goals is the 
first step in designing electronic resource base. First of all, it should be noted that the resource base of 
e-learning environment is a collection of resources necessary for the successful development of students 
of higher professional programs, as well as additional education at the university. In the design of the 
resource base of an open educational environment of the university should be considered pedagogical 
aspects. Virtual learning environment becomes a tool for development and self-development of educational 
process. This applies not only to students, but also teachers themselves. Virtual learning environment 
helps teachers not only to fully take into account all requirements of the current educational standards, 
but also to be a trend of current labor market needs in the search for new knowledge. For students of 
the virtual learning environment creates the conditions for the practical implementation of individual 
educational path that best helps to further adapt to the modern labor market. This leads to the formation 
of a new type of specialist who can implement the concept of “learning through life.” In order to better 
understand the specific design of electronic resource base of high school, consider the model of orga-
nization of the virtual learning environment, which is represented in a number of theoretical works on 
the subject. Before proceeding to the design of the resource base of the virtual learning environment, it 
is understood which services will be used and how they will work. Let us examine this in more detail. 
These services include, for example, Web 3.0, which is a method of designing systems that improve 
through networking, i.e. services that fill themselves and improve users (teachers and students). This 
technology is also based on the use of video conferencing and online-training organization. On the basis 
of this service must operate a number of system components.

Didactic requirements are consistent with the specific laws of learning and, therefore, didactic prin-
ciples. Potentially, provided the design of electronic resources based on pedagogical and psychological 
theories of learning, they are able to provide (in comparison with traditional textbooks) a higher level of 
implementation of such traditional didactic requirements, such as: scientific, availability, problem, visual 
learning, active and conscious students in the learning process, regularity and consistency of training, 
the strength of learning, the unity of educational, developmental and educational functions of training. 
In developing the electronic resources should find a balance between the requirement of consistency 
and systematic training, “regulating user action”, and the requirement of active learning, involves the 
 provision of the user the freedom to choose their actions (their learning path). What will be different 
visual learning using electronic resources?