E-Learning as a Socio-Cultural System:  
A Multidimensional Analysis

Vaiva Zuzevičiūtė  
Mykolas Romeris University, Lithuania

Edita Butrimė  
Lithuanian University of Health Sciences, Lithuania

Daiva Vitkutė-Adžgauskienė  
Vytautas Magnus University, Lithuania

Vladislav Vladimirovich Fomin  
Vytautas Magnus University, Lithuania

Kathy Kikis-Papadakis  
Foundation for Research and Technology, Greece
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## Section 1
**E-Learning Challenges in Higher Education: Digital Natives vs. Digital Savages**

### Chapter 1
Individual and Socio-Cultural Framing of E-Learning ................................................................. 1

*Bernhard Ertl, Universität der Bundeswehr, Germany*
*Kathrin Helling, Universität Innsbruck, Austria*

Chapter 1 introduces several aspects influencing e-learning from an individual and socio-cultural perspective. It deals with the aspect of learners’ collaborative knowledge construction in e-learning, introduces what this perspective means for the design and implementation of e-learning scenarios and tools, and looks at the individual’s learning characteristics. The chapter focuses on the issue of evaluation and provides suggestions to evaluate environments for e-learning from a sociocultural perspective.

### Chapter 2
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*Irina Maslo, University of Latvia, Latvia*
*Svetlana Surikova, University of Latvia, Latvia*
*Manuel Joaquín Fernández González, University of Latvia, Latvia*

The purpose of this chapter is to conceptualize e-learning as a socio-cultural ecological system and to explore the empirical evidences of the objective and subjective conditions for using this concept in practice for increasing participation in higher education. E-learning as a socio-cultural ecological system fosters students’ and faculty staff’s participation, producing new knowledge and pedagogical solutions that create synergy between entrepreneurship and pedagogical leadership in science, education, and politics. This enhances economic growth and sustainable development that benefits the whole ecological system in local, regional, national, European, and global socio-cultural contexts.
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Larisa Darinskaya, Saint Petersburg State University, Russia
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The purpose of this chapter is to identify the possibilities of educational blogs and webquests in the organization of independent work of students oriented to the development of such research skills as search, analysis, and systematization of thematic information. The authors summarize the main advantages of the use of the educational Internet resources, namely the creation of webquests and educational blogs, for the development of students’ research skills: visibility, structuring, clear structure, versatility, and interactivity.

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Prema Nedungadi, Amrita Vishwa Vidyapeetham, India
Raghu Raman, Amrita Vishwa Vidyapeetham, India
Bipin Nair, Amrita Vishwa Vidyapeetham, India

Biotechnology education has become a growing field and led to new advances in many areas, such as genetics, recombinant DNA technologies, developing new therapies and vaccines, food and agricultural industry, and other diagnostic studies. Laboratory experiences are vital components in teaching biology courses to apply the theoretical knowledge to practice. To revolutionize the problems in the current trend of education, virtual laboratories are becoming a new technology that have a promising role in supporting the education institutes by providing a new learning environment for users. This research indicates that virtual labs can be an add-on solution for the problems faced by several institutions and users in urban and rural areas of geographically and economically challenged countries like India in addition to being an effective supporting tool for teaching and self-organized learning processes.

Chapter 5
The Need of a Multidimensional Analysis for the Success of E-Learning Programs ......................... 84

Beatriz Fainholc, National University of La Plata (CEDIPROE), Argentina

The chapter emphasizes the need for multidimensional evaluation of e-learning systems and analyzing e-learning in the context of complex semantic fields of meaning: philosophy, epistemology, culture sociology, anthropology, educational technology, socio-cognitive sciences, etc.
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Eirini Nari, Platon School, Greece

An expanding multicultural context within many countries (including the one at the focus of the chapter) calls for conceptualization of what extent e-learning serves as a useful tool. The authors provide arguments that e-learning may have a positive impact on the process if e-learning is well planned and the process is constantly monitored.

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Chapter 7 analyzes the challenges that teachers face in order to perform their duties in the context of constant change. Empirical study reveals that a lot of support is gained from peers; however, organizational support is perceived as extremely important in the pursuit of quality of teaching in contemporary higher education.

Section 2
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Aušra Vidugirienė, Vytautas Magnus University, Lithuania

The authors discuss the use of various multimedia tools and edutainment in education and e-learning. Their contribution shows how 3D object models, virtual and augmented reality environments, edutainment applications, and serious games can enrich the learning experience. Examples of using 3D models in various scenarios and different fields are presented, and possibilities to control such interactive environments are discussed.

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The authors discuss how semantic technologies and ontology learning can be used for knowledge grounding in e-learning environments. The contribution shows how it is possible to build an ontology from domain-specific corpus texts, using natural language processing techniques. Such an ontology can serve as a map to information resources of an e-learning system.
Chapter 10
Critical Issues in E-Learning Project Management in the Context of Web Technologies

Darius Amilevičius, Mykolas Romeris University, Lithuania

The author considers organizational and technological factors as critical success factors for e-learning projects. From a technological point of view, technological streams of social software, semantic technologies, and social semantic technologies are addressed as important building elements of modern e-learning systems, delivering benefits for new ways of learning and knowledge transfer. It is shown that technological aspects in e-learning system projects should receive adequate executive management support in order to be successful.

Chapter 11
The Premises for Learning Successful Virtual Collaboration in Self-Organizing Teams

Timo Lainema, University of Turku, Finland

The author introduces a global synchronous e-learning platform as an example of a virtual collaboration environment in which student collaboration is motivated, eager, and meaningful. The collaboration environment is analyzed both as a social construction and as a technology-supported environment. The chapter shows how students, using such a platform, can have much more motivation and capacity to take responsibility of their own learning.

Section 3
Managers in Higher Education: Engines for Changes, Followers, or By-Standers?

Chapter 12
To MOOC or not to MOOC? A Case Study of Norway

Cathrine Tømte, Nordic Institute for Studies in Innovation, Research, and Education (NIFU), Norway
Arne Fevolden, Nordic Institute for Studies in Innovation, Research, and Education (NIFU), Norway
Dorothy Sutherland Olsen, Nordic Institute for Studies in Innovation, Research, and Education (NIFU), Norway

The authors briefly review the expectations of Massive Open Online Courses (MOOCs) in the Norwegian higher education context. Their contribution illuminates the ways in which Norwegian higher education institutions make use of technologies that support e-learning, their experiences and thoughts about e-learning, as well as the prospects on future teaching and learning with online learning. Research outcomes uncover contrasting views among participants not only in terms of the future viability of MOOCs, but also in relation to the motivation behind supporting or opposing them.

Chapter 13
Technology-Enhanced Learning in Higher Education: Tribes and Territories

Neil Gordon, University of Hull, UK
Mike Brayshaw, University of Hull, UK

The authors explore issues that affect the uptake and integration of technology in Higher Education and propose potential solutions to some of the challenges that are faced. The issues are discussed from a socio-cultural perspective—in terms of the human factors—and from the approach of considering tribes.
(academic cultures) and territories (discipline-based knowledge). The consideration of the issues allows for the development of a systemic framework within which to explore and describe mechanisms to potentially unite the academic tribes and to see the territorial boundaries as artificial and counter-productive.

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Zerrin Ayvaz Reis, Istanbul University, Turkey
Sevinc Gulsecen, Istanbul University, Turkey

The authors consider e-learning in the Turkish higher education context from a socio-cultural perspective by identifying social and cultural factors that aid or impede e-learning in national higher education institutions. The chapter reviews dimensions and features of distant education, presents basic socio-cultural elements in the country, and discusses the results of a comparative study analyzing socio-cultural dimensions in e-learning for higher education.

Chapter 15
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Peter J. Short, Blackburn College University Centre, UK
Deborah Millar, Blackburn College University Centre, UK

The authors review the models and acceptability of e-learning for higher education institutions from a developed countries perspective and evaluate the differing models of delivery from practical and socio-economic perspectives. In addition, they investigate the impact of the shifts in population growth and the subsequent impact upon the levels of demand from students in less developed countries. The logistical and quality factors affecting e-learning are evaluated, looking at the aspects of academic quality, plagiarism, and the methods of managing the originality and authenticity of student work. Their research also provides insights to the viability of situations where the education provider may never physically meet the students, and the possible credibility issues that this may present to institutional and awarding body reputations.

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Youmei Liu, University of Houston, USA

The author is inviting readers to think whether e-learning may also act as a vehicle toward equality via making education more accessible. While e-learning equality may be a bit pre-mature, it is obvious that e-learning may certainly provide more opportunities for learners than there ever have been.

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Mohan Gurubatham, HELP University, Malaysia

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Saulius Kuzminsks, Vytautas Magnus University, Lithuania
Giedrė Česonytė, Vytautas Magnus University, Lithuania
Vladislav V. Fomin, Vytautas Magnus University, Lithuania

Chapter 18 analyzes the situation in higher education. An analysis of the impact of e-learning for students’ quality of learning and facilitation of in-depth learning shows that some issues remain, namely that using e-learning tools (and tools for monitoring learning and administration of the process, such as an e-journal system) does not automatically generate higher levels of learning.

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Celia Romm Livermore, Wayne State University, USA
Mahesh Raisinghani, Texas Woman’s University, USA
Pierluigi Rippa, University of Napoli Federico II, Italy

Chapter 19 analyzes to what extent e-learning may serve as a political agent that may have a positive impact on how people construct their relationships in relation to factors such as ethnicity and gender. An extensive and convincing analysis of the factors is presented.

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When I was approached by the editors with the request to develop a Foreword to this book, *E-Learning as a Socio-Cultural System: A Multidimensional Analysis,* I must admit, I was hesitant.

As a fierce proponent of e-learning in my own country and beyond, serving as an expert in a number of panels, the purpose of which is to promote e-learning, as a researcher and a member of a number of national and international associations that devote their activities to promoting and supporting e-learning, at first I was hesitant to accept this task. It seemed to me that we, supporters of Information Communication Technologies (ICT)-assisted teaching and learning (e-learning, according to authors’ conceptualization) have many obstacles, challenges, and sometimes even resistance to face, and that we do not really need to question whether ICT-assisted teaching and learning is something worth supporting.

However, analysis of the introductory remarks and the contributions from all over the world (USA, Italy, India, Argentina, Finland, Russia, Great Britain, Lithuania, Germany, Latvia, Greece, Norway) convinced me.

As a professor in higher education, I have encountered the wonderful support and sometimes the indifference of managers, surprising enthusiasm and sometimes condescending contempt of colleagues, surprising competence and sometimes astonishing incompetence of students, unlimited devotion and sometimes unexplainable lack of readiness to discuss things of programmers, unconditional support and sometimes incredible reluctance to provide support of policymakers for ICT-assisted teaching and learning. However, it seems to me that once colleagues and students, managers and policymakers see the benefits that are obvious to me and anyone who gets involved in the process, the camp of supporters will increase.

The materials, both the analysis of the situation and the most recent empirical findings from all over the world, show that ICT-assisted teaching and learning may not always be perceived as such by either students or teachers, or managers, that IT professionals still work in isolation, and that systems still need to be developed.

The rapid developments of technologies sometimes create a smokescreen above other issues, and some elements are being fostered with more energy than others. Under the smokescreen of the ever-increasing assortment of ICT opportunities for teaching and learning, we indeed sometimes forget that teaching and learning are the most intrinsic, most humane actions, the actions that make us human beings. Under the smokescreen of ever-increasing capacities of ICT, we sometimes forget that dialogue and support, exchange of ideas and their critique provide the basis for sustainable and responsible development, and that a real supporter is the one who sees both advantages and disadvantages and proceeds after these have been weighed.