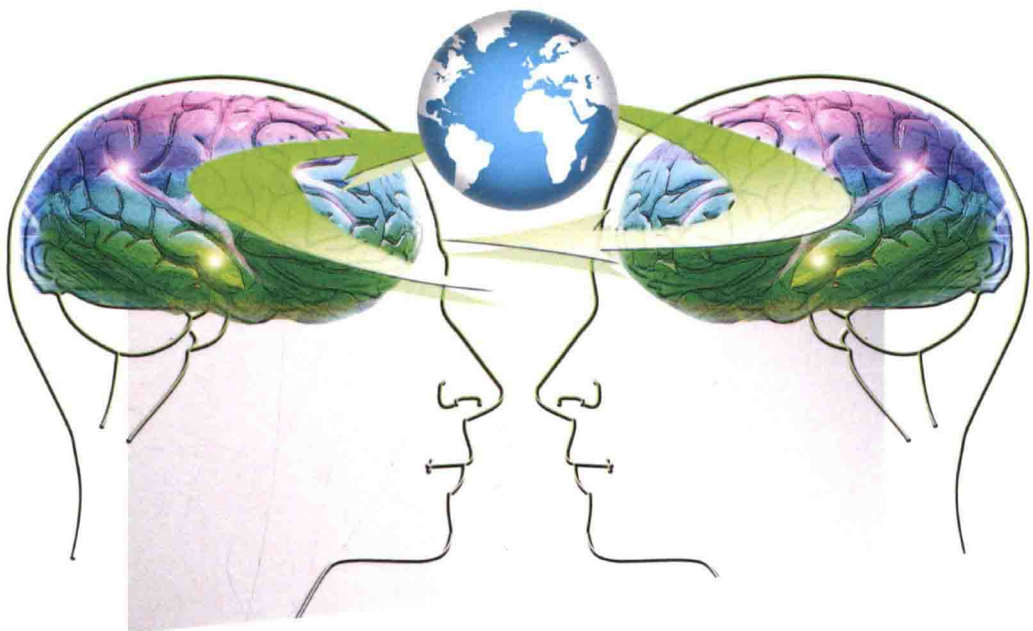
21st Century Lifelong Creative Learning

A Matrix of Innovative Methods and New Technologies for Individual, Team and Community Skills and Competencies



Niki Lambropoulos ⌘ Margarida Romero

NOVA

From Dewey to the Quantum, this text provides an in-depth networking of theoretical and practical approaches to learning within and across educational endeavours in both academia and the workplace. We are presented with an examination of the cognitive neuroscience of insight, semantic coding, and conative learning affordances; queried about the emergence of massified learning, enactivism, and learning analytics; and called to reconfigure course conceptualization as customization. This rendition of "le@rning forward" offers a particularly extensive, inclusive, and critical rendering of 21st century pedagogical paradigmatic changes. A must-read for anyone wishing to develop their pedagogical prowess with respect to learning e-volutions. (Prof. Renée M. Fountain, Pavillon des Sciences de l'éducation, Université Laval, Québec, Canada)

The book looks at the Technology-Enhanced Learning field from an interesting and innovative perspective. It opens a window on the new learning environments that foster the acquisition of those new skills that are necessary to live and be an active part of today's Knowledge Society. While outlining the present state of the art, it offers an interesting insight into the potential of innovative tools and educational methods. It represents a valuable addition for scientific libraries and can also be viewed as an excellent textbook for higher education and master courses in Educational Technology. (Dott. Michela Ott, Istituto Tecnologie Didattiche (ITD), Consiglio Nazionale delle Ricerche (CNR), Genova, Italy)

21st Century Lifelong Creative Learning: A Matrix of Innovative Methods and New Technologies for Individual, Team and Community Skills and Competencies by Niki Lambropoulos Margarida Romero makes an excellent contribution to the body of knowledge on skills and methodological approaches to understanding learning in both individual and group contexts and across various multi-media environments. (Prof. Robyn M. Gillies, School of Education, The University of Queensland, Brisbane, Australia)

This is a prominent work on competencies-based educational approaches that you must read! In the 21st century, learning is individual and also collective; it utilises social networks, MOOCs, collaborative platforms, applications, smart devices, the Internet of Things… but learning still relies on our own creativity, innovation, involvement, communication, and also organization and project management. Linking these together is not so simple! Learning to evaluate one's own skills and manage one's own development are creative individuals' key competencies to be able to adapt and anticipate future social, technological, and economic revolutions. (Alain Gourdin, Consultant for Higher Education & Professional Training Systems, Director of Paris IT Institute (ITIN) & Paris-Seine University, Paris, France)

New age of learning requires new paradigm rising from creativity and innovation derived from gems of existing wisdom. Lambropoulos and Romero's new book, 21st Century Lifelong Creative Learning, addresses these important issues and adopts a progressive individual-community-global framework through the six chapters. This book offers a wide spectrum of tools for whoever is striving to or helping others achieve meaningful lifelong creative learning through educational technology. (A.Prof. Yu-Chang Hsu, Boise State University, Boise, Idaho, U.S.A.)

nova publishers

Cover images courtesy of pixabay.com

www.novapublishers.com

ISBN 978-1-63483-095-9

9 781634 830959

EDUCATION IN A COMPETITIVE AND GLOBALIZING WORLD

21ST CENTURY LIFELONG CREATIVE LEARNING

A MATRIX OF INNOVATIVE METHODS AND NEW TECHNOLOGIES FOR INDIVIDUAL, TEAM AND COMMUNITY SKILLS AND COMPETENCIES

NIKI LAMBROPOULOS
AND
MARGARIDA ROMERO

藏书章

nova publishers
New York

Copyright © 2015 by Nova Science Publishers, Inc.

All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic, tape, mechanical photocopying, recording or otherwise without the written permission of the Publisher.

We have partnered with Copyright Clearance Center to make it easy for you to obtain permissions to reuse content from this publication. Simply navigate to this publication's page on Nova's website and locate the "Get Permission" button below the title description. This button is linked directly to the title's permission page on copyright.com. Alternatively, you can visit copyright.com and search by title, ISBN, or ISSN.

For further questions about using the service on copyright.com, please contact:
Copyright Clearance Center
Phone: +1-(978) 750-8400 Fax: +1-(978) 750-4470 E-mail: info@copyright.com.

NOTICE TO THE READER

The Publisher has taken reasonable care in the preparation of this book, but makes no expressed or implied warranty of any kind and assumes no responsibility for any errors or omissions. No liability is assumed for incidental or consequential damages in connection with or arising out of information contained in this book. The Publisher shall not be liable for any special, consequential, or exemplary damages resulting, in whole or in part, from the readers' use of, or reliance upon, this material. Any parts of this book based on government reports are so indicated and copyright is claimed for those parts to the extent applicable to compilations of such works.

Independent verification should be sought for any data, advice or recommendations contained in this book. In addition, no responsibility is assumed by the publisher for any injury and/or damage to persons or property arising from any methods, products, instructions, ideas or otherwise contained in this publication.

This publication is designed to provide accurate and authoritative information with regard to the subject matter covered herein. It is sold with the clear understanding that the Publisher is not engaged in rendering legal or any other professional services. If legal or any other expert assistance is required, the services of a competent person should be sought. FROM A DECLARATION OF PARTICIPANTS JOINTLY ADOPTED BY A COMMITTEE OF THE AMERICAN BAR ASSOCIATION AND A COMMITTEE OF PUBLISHERS.

Additional color graphics may be available in the e-book version of this book.

Library of Congress Cataloging-in-Publication Data

ISBN: 978-1-63483-095-9

Published by Nova Science Publishers, Inc. † New York

此为试读,需要完整PDF请访问: www.ertongbook.com

21ST CENTURY LIFELONG CREATIVE LEARNING

A MATRIX OF INNOVATIVE METHODS AND NEW TECHNOLOGIES FOR INDIVIDUAL, TEAM AND COMMUNITY SKILLS AND COMPETENCIES

EDUCATION IN A COMPETITIVE AND GLOBALIZING WORLD

Additional books in this series can be found on Nova's website under the Series tab.

Additional e-books in this series can be found on Nova's website under the e-book tab.

FOREWORD

The book entitled "21st Century Lifelong Creative Learning: A Matrix of Innovative Methods and New Technologies for Individual, Team and Community Skills and Competencies" by Niki Lambropoulos and Margarida Romero is an excellent contribution to the body of knowledge on skills and competence-based methodologies.

As of the late 20th century, acquired skills were no longer an immutable reality. Until then, people acquired skills to support them throughout their lives. But, with the fast pace of change, this reality dramatically altered, and currently there is an increased need for people to acquire new skills throughout their lifetimes. Jobs that were "for life" are not a reality anymore and, therefore, there is a constant need to acquire new skills in a very competitive society.

Thus, this text is timely, since it addresses a current and fast-paced reality that is increasingly becoming more important as old-fashioned precepts are decaying and are being replaced by new learning paradigms, fostering interaction, individual and collective content creation, and individualized assessment. Social Media and MOOCs are just two examples of two emerging realities that are changing the *status quo*. While the former has even contributed to political revolutions, playing a role in several areas beyond education, the latter defies traditional teaching settings.

21st Century life-long learning is more than learning in its current sense of education and job training; it is the continuous personal attempt to understand new societal/economic trends and the willingness to change oneself. Existential learning typically happens in communities, as social surroundings are the most direct entry to the human mind. The only curriculum is the joint intention of citizens to reach a certain effect like ideology, enterprise or social well-being. The mobile apps offer new participation models that are diametric to institutional courses; apps offer the learner to define rather than follow prefab instructions. We see young people developing new skills to establish small and medium enterprises; learning is focused on survival rather than certificates.

New skills are required to deal with new realities. Current and novel generations will need to embrace innovative realities both in terms of pedagogies and learning depictions.

This monograph introduces the new 21st concept of education for life, covers in detail learning theories and pedagogical methodologies, explains the need for redefining 21st century learning, introduces a 21st century competences roadmap, and finally covers various innovative technologies and related methodologies.

In all, a must-have book that constitutes itself as an informed tool for the current education challenges. It will help lecturers, students, researchers and practitioners in general, to navigate this new world of constant Learning.

Associate Professor Piet Kommers
University of Twente, The Netherlands

Associate Professor Pedro Isaias
Universidade Aberta (Portuguese Open University), Portugal

January 2015

PREFACE

Nowadays, we are connected and mediated by new technologies that enable us to be omnipresent, bringing down any geographical, temporal, and cultural boundaries., These technologies facilitate, enhance and expand our auras for global interaction and collaboration. Lifelong Learning within the 21st century implies the continuous and evolutionary development of skills and competences; we as learners can become the architects of our own lives and environments. Inter-dependency and inter-connectivity empowers the collective construction and sharing of knowledge in an evolving manner within communities and social networks. Smaller or wider groups of people consciously share their sense of belonging, anchored in common interests and trust and enhanced by social interactions mediated by new technologies. Online communities emerge as social aggregations when enough people carry on those public discussions long enough to form relationships. Social Networks are social structures made up of a set of actors and the interactive ties between these actors for friendship, common interests, mutual friends, family members, business, to name a few.

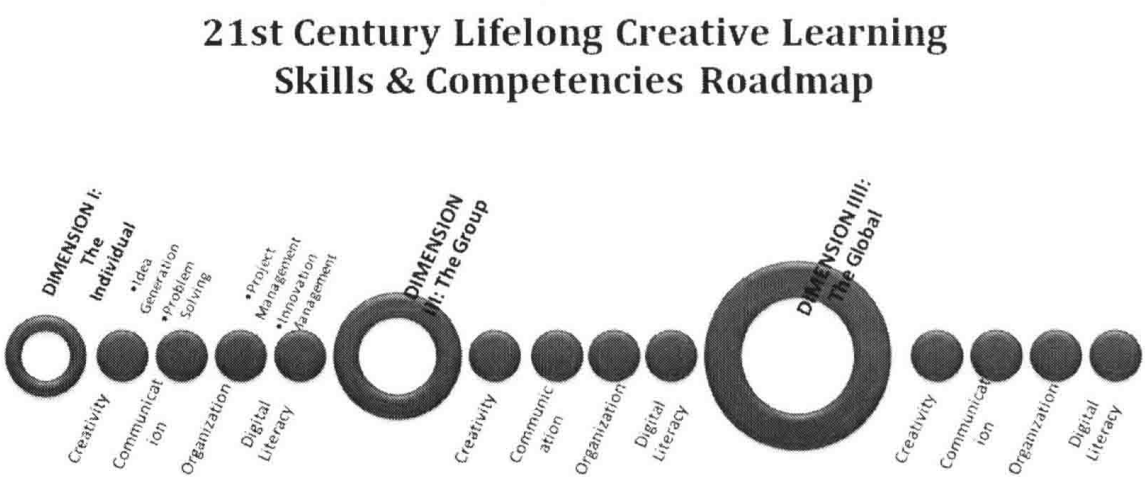
In the new 21st century setting, learning, either onsite or online occurs by containing different knowledge acquisition levels enabling members' engagement and practice. Artefacts used within a cultural practice carry a substantial portion of that practice's heritage. Thus, learning as well as understanding the technology of practice is a way to connect with the history of the community practice and participate more directly in its cultural life. Such participation pushes forward the community evolution towards targeted visions and goals. The new technologies are artefacts empowering the users as learners, sharing meaning and enhancing abilities for designing, developing and constructing their own real and virtual worlds. Consequently, the tools expanded our perception, which in turn affected our education and research. They expand from the individual to the dyads and triads, then to the small groups of four to seven members, and finally to bigger communities and networks.

As Web 1.0 was revolved around top-down Information and E-commerce, Web 2.0 moved beyond static pages. This allowed users to interact and collaborate utilising social media and other collaborative platforms. Web 3.0 is enhancing the 'Net intelligence; users can follow back and recognise behavioural patterns, modify them willingly and even re-create them. In this emerging and customisable world, ontological design mixes reality, virtuality and people into new magical dimensions. and hybrid environments; identifying these threads indicate which patterns to unlearn, desired patterns to learn, and what is needed for us to evolve. Collective capabilities support a more open and altruistic behaviour, expanding our aura to include the wider ecology. The creative individual can consciously learn and work

both on an individual and social level, focusing on single as well as diverse disciplines. They may even create new models beyond disciplinary perspectives. Unification models across disciplines bring new perspectives and educational approaches needed for the fading traits in regard to individual, team and community behavioural patterns. At the same time, we perceive and create our world with our senses, cognition and tools. We may become aware of our inner qualities and obstacles when in these creative activities. Such immersive factors of presence, inter- connectedness, engagement, sharing experiences and the sense of belonging in groups, communities and networks, enhances our perception via our technological enhanced senses.

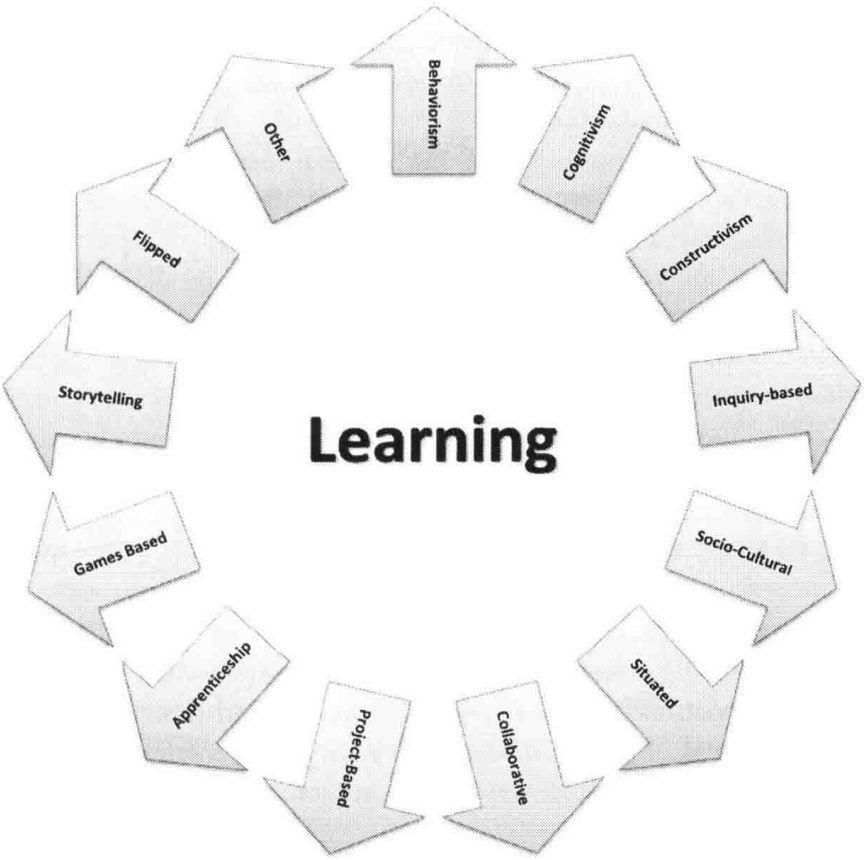
Changing and expanding a person's perception and responses to stimuli is indeed the reason to learn; the learning impact may appear in a great distance and usually it is disconnected from the initial triggering of behavioural change. Therefore, this book suggests the need for innovative and complementary skills and competencies; anchored in solid pedagogical design, the individuals acquire such spiral knowledge, skills and competencies on creativity, organisation and project management. Improving human capabilities enables the individual to deal with the increasing complexity of the world. These competencies are indicative and related to: observation, information identification, critique and synthesis, awareness, knowledge awareness, critical thinking, connectedness, one and two ways of communication, presence and co-presence, self-reflection, meta-cognition, abstract and collective mind, co-creativity and innovation.

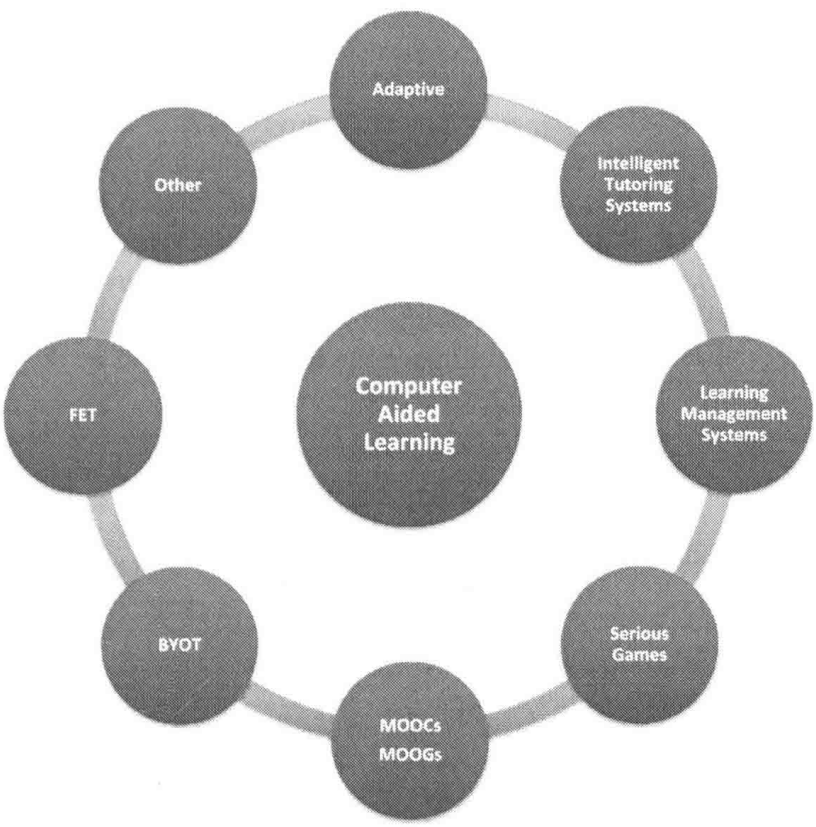
Consequently, this book revolves around two main ideas. First, the initial proposition is focused upon an innovative and complementary knowledge, skills and competencies matrix expanding from the individual learner to the wider community and the world.



Then, the book discusses a range of pedagogical methodologies, tools and techniques needed for such individual and more global immersive experience to occur.

此为试读,需要完整PDF请访问: www.ertongbook.com


Learning
Behaviorism
Cognitivism
Constructivism
Inquiry-based
Socio-Cultural
Situated
Collaborative
Project-Based
Apprenticeship
Games Based
Storytelling
Flipped
Other


Computer Aided Learning
Adaptive
Intelligent Tutoring Systems
Learning Management Systems
Serious Games
MOOCs MOOGs
BYOT
FET
Other

The chapters in this book are as follows:

Chapter 1 introduces the way the educational research locus evolved from the individual to the community and the importance of following this natural order and inherent human perception and ability to learn and create.

Chapter 2 provides a description of the overall learning theories and pedagogical methodologies and the ways these can be used from the educator so to be selected and orchestrated according to the learning visions, goals and targets.

Chapter 3 stresses the need for new educational systems and definitions for the learning needs and targets as well as the lifelong learning purposes

Chapter 4 introduces the suggested framework in detail, referring to the three dimensions of the individual the team and the global community for the creativity, communication and organisational skills. Two indicative new creativity techniques are introduced.

Chapter 5 refers to the new technologies utilisation in order to achieve the learning targets and visions as well as orchestrate the previously mentioned pedagogical methodologies. Older as well as new emerging technologies and their attributes discussed here.

Chapter 6 concludes the discussion with the need for new abilities based upon other modern approaches such as the anthropic principle from modern physics. The physical universe must be compatible with the conscious and sapient life that observes it with all qualities and fundamental physical constants necessary to accommodate and be compatible with conscious life. Eventually this may be the reason we are conscious and sapient life emerges within the world.

How to use this book: A reader may decide upon distinct learning goals and the level of skills they would like to target and be involved in: self level, group level and global level. This is a technology independent initial step, though one may have some technologies in mind. A decision is then made on the skillset for development or/and assessment (e.g., creativity, sociability, organization, management, innovation etc.) Lastly, one may select the most innovative methods and suitable new technologies from the available matrix. Based on the raised awareness this book offers, one can design and develop his or her own ways of creating such matrices. In this way, a practical interconnected framework is offered for the 21st Century Lifelong Learners. This matrix aims to help everyone involved in the educational technologies sector to deal with the increasing complexity in the field. This guide ultimately attempts to fully expand human capabilities and creative potential at the greatest possible extent.

ACKNOWLEDGMENTS

Special thanks to our families who support us even though they sometimes wonder about the reasons we insist and try again and again to advance our own practice and field of expertise.

We would also like to thank Nova Publishers, and especially our wonderful and patient book editor, Carra Feagaiga who stood by us, supported us, dealt with issues such as moving abroad and changing affiliations.

CONTENTS

Foreword		**vii**
	Piet Kommers and Pedro Isaias	
Preface		**ix**
Acknowledgments		**xiii**
Chapter 1	21st Century Education for Life	**1**
Chapter 2	Learning Theories and Pedagogical Methodologies for Lifelong Creative Learning	**13**
Chapter 3	The Need for Redefining 21st Century Lifelong Creative Learning	**43**
Chapter 4	The 21st Century Skills and Competencies Matrix	**67**
Chapter 5	New Technologies for the 21st Century Lifelong Creative Learning	**115**
Chapter 6	Epilogue: The Revered Gaze in an Expanding World	**135**
Appendix I:	Online Soft Skills Enhancement	**141**
Appendix II:	Evaluation and Benchmarking	**143**
Appendix III:	Sociability and Usability Evaluation Criteria Catalogue	**145**
About the Authors		**147**
Index		**149**

此为试读,需要完整PDF请访问: www.ertongbook.com