Higher Education Dynamics

Volume 59

Series Editors
Peter Maassen, Department of Education, Faculty of Educational Science, University of Oslo, Blindern, Oslo, Norway
Manja Klemenčič, Department of Sociology, Harvard University, Cambridge, MA, USA

Editorial Board Members
Akira Arimoto, Research Institute for Higher Education, Hyogo University, Kakogawa, Japan
Elizabeth Balbachevsky, NUPPs-IEA/USP, Universidade de São Paulo, São Paulo, Brazil
Giliberto Capano, Political & Social Sciences, University of Bologna, Bologna, Italy
Glen Jones, Ontario Inst for Studies in Education, University of Toronto, Toronto, ON, Canada
Marek Kwiek, Center for Public Policy Studies, Adam Mickiewicz University in Poznań, Poznań, Poland
Johan Müller, School of Education, University of Cape Town, Rondebosch, South Africa
Teboho Moja, Higher Education Program, New York University, New York, NY, USA
Jung-Cheol Shin, Department of Education, Seoul National University, Gwanak-Gu, Seoul, Korea (Republic of)
Martina Vukasovic, Administration and Organization Theory, University of Bergen, Bergen, Norway

This series is intended to study adaptation processes and their outcomes in higher education at all relevant levels. In addition it wants to examine the way interactions between these levels affect adaptation processes. It aims at applying general social science concepts and theories as well as testing theories in the field of higher education research. It wants to do so in a manner that is of relevance to all those professionally involved in higher education, be it as ministers, policy-makers, politicians, institutional leaders or administrators, higher education researchers, members of the academic staff of universities and colleges, or students. It will include both mature and developing systems of higher education, covering public as well as private institutions.

All volumes published in the 'Higher Education Dynamics' series get peer-reviewed (single-blind).

The series is included in Scopus.

Juliana E. Raffaghelli • Albert Sangrà
Editors

Data Cultures in Higher Education

Emergent Practices and the Challenge Ahead

Springer

Editors
Juliana E. Raffaghelli
Universitat Oberta de Catalunya
Barcelona, Spain

Albert Sangrà
Universitat Oberta de Catalunya
Barcelona, Spain

ISSN 1571-0378 ISSN 2215-1923 (electronic)
Higher Education Dynamics
ISBN 978-3-031-24192-5 ISBN 978-3-031-24193-2 (eBook)
https://doi.org/10.1007/978-3-031-24193-2

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2023
This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.
The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.
The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Contents

1 Data Cultures in Higher Education: Acknowledging Complexity . . . 1
Juliana E. Raffaghelli and Albert Sangrà

2 Data, Society and the University: Facets of a Complex Problem 41
Juliana E. Raffaghelli and Albert Sangrà

Part I Exploring Reactive Data Epistemologies in Higher Education

3 Fair Learning Analytics: Design, Participation, and Trans-discipline in the Techno-structure 71
Regina Motz and Patricia Díaz-Charquero

4 Beyond Just Metrics: For a Renewed Approach to Assessment in Higher Education 89
Juliana E. Raffaghelli and Valentina Grion

5 "We Used to Have Fun But Then Data Came into Play…": Social Media at the Crossroads Between Big Data and Digital Literacy Issues 123
Benjamin Gleason and Stefania Manca

Part II Exploring Proactive Data Epistemologies in Higher Education

6 Why Does Open Data Get Underused? A Focus on the Role of (Open) Data Literacy 145
Gema Santos-Hermosa, Alfonso Quarati, Eugenia Loría-Soriano, and Juliana E. Raffaghelli

7 Responsible Educational Technology Research: From Open Science and Open Data to Ethics and Trustworthy Learning Analytics 179
Davinia Hernández-Leo, Ishari Amarasinghe, Marc Beardsley, Eyad Hakami, Aurelio Ruiz García, and Patricia Santos

8 Exploring Possible Worlds: Open and Participatory Tools for Critical Data Literacy and Fairer Data Culture 201
Caroline Kuhn

Part III The Challenge Ahead

9 Toward an Ethics of Classroom Tools: Educating Educators for Data Literacy 229
Bonnie Stewart

10 How to Integrate Data Culture in HE: A Teaching Experience in a Digital Competence Course 245
Montse Guitert, Teresa Romeu, and Marc Romero

11 Teaching Data That Matters: History and Practice 267
Rahul Bhargava

12 Critical Data Literacy in Higher Education: Teaching and Research for Data Ethics and Justice 293
Javiera Atenas, Leo Havemann, Caroline Kuhn, and Cristian Timmermann

13 How Stakeholders' Data Literacy Contributes to Quality in Higher Education: A Goal-Oriented Analysis 313
Nan Yang and Tong Li

14 Data Centres in the University: From Tools to Symbols of Power and Transformation 329
Pablo Rivera-Vargas, Cristóbal Cobo, Judith Jacovkis, and Ezequiel Passerón

15 Conclusion: Building Fair Data Cultures in Higher Education 355
Juliana E. Raffaghelli and Albert Sangrà

Afterword: For: Data Cultures in Higher Education – Emergent Practices and the Challenge Ahead 385