



Edited by

Mark Loon · Jim Stewart · Stefanos Nachmias

The Future of HRD, **Volume I**

Innovation and Technology

palgrave
macmillan

The Future of HRD, Volume I

“This book is very timely! Our approach to the world of work is changing rapidly. The degree to which our working lives are reliant upon technology has been emphasised by social distancing and Covid-19. The internationally renowned contributors to this volume address key issues around innovation and technology that HRD will face in the future. The editors skilfully pull these together to create a pool of ideas, learning and thought that generates questions, whilst also emphasising alternative ways of working. This book is essential reading for anyone questioning changes in the role of technology in the way we work, communicate, socialise and learn.”

—Dr Monica Lee, Lancaster University, UK

Mark Loon • Jim Stewart
Stefanos Nachmias
Editors

The Future of HRD, Volume I

Innovation and Technology

palgrave
macmillan

Editors

Mark Loon
Bath Spa University
Bath, UK

Stefanos Nachmias
Nottingham Business School
Nottingham Trent University
Nottingham, UK

Jim Stewart
Liverpool Business School
Liverpool John Moores University
Liverpool, UK

ISBN 978-3-030-52409-8 ISBN 978-3-030-52410-4 (eBook)
<https://doi.org/10.1007/978-3-030-52410-4>

© The Editor(s) (if applicable) and The Author(s), under exclusive licence to Springer Nature Switzerland AG 2020

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

Preface

It is evident that technology continues to grow in reshaping societies and the workplace. The ubiquity of technology cannot be understated and yet its pervasiveness is usually taken for granted. Indeed, at times, technology is not just a luxury or a choice but it is a necessity. For instance, without the cost efficiency and scalability that technology affords, platforms such as massive open online course (MOOCS) would never have been possible. The centrality of technology and science has also been underscored by the recent Covid-19 pandemic in both facilitating the spread of the virus and detecting, suppressing and, in the future, vaccinating against the virus. Indirectly, technology has also played a key role in supporting economic and social activities. While a lot of such activity has been put on pause by the Covid-19 pandemic, much more would have been affected if not for technology that allowed for much of learning and teaching to continue to be delivered by Higher Education institutions, albeit in a virtual environment.

The acceleration of technological advancement and the amplification of its impact in all aspects of our lives, in particular in the field of Human Resource Development (HRD), serve as the inspiration of this volume 'Future of HRD: Disruption Through Digitalisation'. In academia, scholars are growing interested in how the social and material (e.g. technology) shape practice and identities. While the role of human agency is still

pivotal, it does not alone explain everything. Only by also taking into consideration the nuanced, novel and idiosyncratic, are we in a better position to understand human phenomenon and practice in the real world.

In the absence of literature that was dedicated and focused to exploring this issue, we decided to do something about it. In particular, this book does not just take stock of the advancement and coalescence between technology and HRD in practice and policy, but it also translates the findings as a learning and teaching resource. Clearly, as academics we are partial to theory but we are even more so partial to theories that are meaningful and accessible by practitioners and policymakers. We could not agree more with Kurt Lewin who said, 'there is nothing as practical as a good theory'. With this in mind, we put out a call for papers to colleagues in the HRD field around the globe. The number and quality of the response was more than we had expected. It has been our privilege to be able to work with these contributors.

In essence, this volume explores how technology affects organisational and individual life through innovation, creativity and learning. In doing so, it captures the growing trends around technology and how HRD could respond to these changes at micro and macro level. We believe this book contains a unique blend of chapters that offer critical assessment around HRD practices and how technology could be used as a learning tool to support individual and organisational goals. Each chapter contains a number of learning resources that will enable the reader to examine a number of wider implications on how to address learning needs in the future. We hope you enjoy reading this volume and, most importantly, that you find it useful.

Bath, UK
Liverpool, UK
Nottingham, UK

Mark Loon
Jim Stewart
Stefanos Nachmias

Acknowledgements

The editors wish to thank all contributors for taking part in this book and sharing their personal stories, expertise and knowledge. We also wish to thank the team at Palgrave Macmillan for giving us the space to produce this new volume. The reviewers are also thanked for their feedback and comments on making this volume a good piece of reading. We would like to give our gratitude to colleagues for their encouragement throughout the journey of producing this book. Mark thanks Joanne Bridge-Loon for all her support. As always, Jim thanks Pat and Paul for all of their continuing support for yet another book project. Stefanos is really grateful to Lianne for her unconditional support in producing this book.

Contents

- 1 Introduction to Volume One: Future of Human Resource Development—Disruption Through Digitalisation** 1
Jim Stewart, Mark Loon, and Stefanos Nachmias

- 2 The Effects of New Technologies at Work on Work Outcomes and the Implications for Human Resource Development** 13
Regina H. Mulder and Patrick Beer

- 3 Digital Competence Revolution and Human Resource Development in the United Kingdom and Switzerland** 53
Elena Hubschmid-Vierheilig, Monika Rohrer, and Fotios Mitsakis

- 4 Talent Disrupted: Opportunities and Threats for Human Resource Development (HRD) Strategy and Practice in the Gig Economy Through the Critical HRD Lens** 93
Elaine Yerby and Rebecca Page Tickell

5	The Role of HRD in Developing Capabilities for Creativity and Innovation at Work: A Multilevel Approach	115
	<i>Anna Walker and Polly Derbyshire</i>	
6	Redefining HRD Roles and Practice in the Machine Learning Revolution	143
	<i>Patricia Harrison, Lynn Nichol, and Jeff Gold</i>	
7	E-learning: A Temporary ‘By-Product’ of Covid-19 Pandemic or a Contemporary Solution to Workplace Training and Learning?	167
	<i>Fotios Mitsakis and Theodosia Karageorgakis</i>	
8	Technological Innovations in Care and Implications for Human Resource Development	193
	<i>Louise Oldridge</i>	
9	Constraints Facing Creative Enterprises in GCC: Implications for HRD	211
	<i>Hussain Alhejji, Thomas N. Garavan, and Rayed Darwish</i>	
10	The Future of HRD in a Post-Pandemic World: Insights from Dr Wilson Wong	237
	<i>Mark Loon</i>	
	Index	253

Notes on Contributors

Hussain Alhejji is an assistant professor at the Gulf University for Science and Technology, Kuwait. He has a Bachelor of Business Studies from King Faisal University, Saudi Arabia, and a Master of Human Resources and Employment Relations from the University of Western Australia, Australia. He completed his PhD in Human Resource Development from the University of Limerick, Ireland. His research focuses on cross-cultural dimensions of diversity training, diversity at work from institutional perspective, gender equality and international human resource development. He is a member of the editorial advisory board at the *European Journal of Training and Development*. Alhejji has authored a number of peer-reviewed journal articles and book chapters in international textbooks.

Patrick Beer received his MA in Educational Science from the University of Regensburg, Germany, in 2018. He is interested in the empirical effects of digitisation on work and its implications for professional development and society. In his doctoral thesis, he focuses on changes in work resulting from technological developments and the informal and goal-orientated learning activities required to manage these changes within a dynamic context such as the finance sector.

Rayed Darwish brings a wealth of learning and educational experience spanning almost 11 years from Australia to the Gulf Cooperation Council (GCC). Having worked as an English teacher, corporate trainer, Director of Studies and now as Mentorship Program Director at ABQ, Darwish is developing the 'Discovering You Program', a twenty-first-century skills school initiative. With a BA in Australian and Comparative Studies from Griffith University, a CELTA (Certificate in English Language Teaching to Adults) teacher training qualification awarded by the University of Cambridge and a Master of Education (Teaching English to Speakers of Other Languages [TESOL]) degree from the University of Wollongong, Darwish is an avid student of all things educational, social and cultural.

Polly Derbyshire is an Academic Manager at Bath Business School, Bath Spa University, UK. After a career in HR, she re-qualified as a careers advisor and worked on a community project before beginning her career at the university in 2002. She moved into an academic role in 2006 teaching human resource management (HRM) at undergraduate and postgraduate levels including on the MBA. She has worked with many employers and students on HR-related projects including Siemens and the Ministry of Defence. She has an MA in Managing Human Resources, a PG Diploma in Guidance, is a member of the Chartered Institute of Personnel and Development (CIPD) and a fellow of the Higher Education Academy (HEA).

Thomas N. Garavan is a visiting professor at the National College of Ireland, Ireland, specialising in leadership development, HRD and leadership, corporate social responsibility (CSR) and leadership and cross-cultural leadership. Garavan graduated from the University of Limerick, Ireland, with a Bachelor of Business Studies and completed a Doctorate of Education from the University of Bristol. He is the editor of the *European Journal of Training and Development* and associate editor of *Personnel Review*. He is a member of the editorial boards of *Human Resource Development Quarterly*, *Human Resource Development Review*, *Advances in Developing Human Resources* and *Human Resource Development International*. He is the recipient of the Academy of Human Resource Development, Outstanding HRD Scholar Award 2013.

Jeff Gold is Professor of Organisation Learning at York St John, UK. He is a strong advocate of the need for actionable knowledge that is rigorously developed but relevant for practice. He has designed and delivered a wide range of seminars, programmes and workshops on culture shift, talent management and development, change, strategic learning, futures and foresight, management and leadership development with a particular emphasis on participation and distribution. He has worked closely with organisations such as Skipton Building Society, Hallmark Cards, the NHS, the Police Service, Leeds Bradford Boiler Company, Lights4Fun and a host of others.

Patricia Harrison is a senior lecturer at Liverpool John Moores University, UK. She has experience of programme management, teaching and research. Her research specialist areas include Roma, precarity, profession, labour turnover, spirituality, machine learning and HRD. She is a Chartered Fellow of the Chartered Institute of Personnel and Development and a senior fellow of the Higher Education Academy (HEA). She worked at Webster University, Geneva; Kingston and Bournemouth University, UK; and has extensive HR consultancy experience including prior employment with Siemens. Harrison developed the HR Professional Student Network in 2015 and Liverpool Roma Employability Network (LREN) in 2017.

Elena Hubschmid-Vierheilig holds a PhD in Economics from the University of Bern and is a lecturer at the Centre for Human Capital Management, School of Management and Law, Zurich University of Applied Sciences (ZHAW), Switzerland. Prior to her engagement at ZHAW, she was responsible for the design and implementation of the HRD practices in nine countries for an international company based in Zurich. At ZHAW, she teaches human capital management, international HRM and leadership. Her research interests are HRD and digital competences, intercultural HR, diversity and inclusion. Hubschmid-Vierheilig has a strong international background and is fluent in five languages.

Theodosios Karageorgakis is an instructional designer and e-learning developer at the Center for the Advancement of Research & Development in Educational Technology (CARDET). Karageorgakis has also worked as a freelancer for various organisations and universities, most notably Amazon Payroll and the University of Nicosia. In 2019, he was honoured with the silver award at the Educational Leader Awards held in Athens for his contribution to e-learning work. Besides e-learning material development, Karageorgakis is also keen on reviewing educational applications and writing articles relating to educational technology on his personal portal <http://educraft.tech> and on various other related websites.

Mark Loon is Deputy Pro-Vice Chancellor for Research and Enterprise at Bath Spa University, UK. He is a co-editor-in-chief of the *International Journal of Human Resource Development: Practice, Policy and Research* and vice-chair of the British Academy of Management, co-leading the Management Knowledge and Education Committee.

Fotios Mitsakis is Senior Lecturer in Human Resource Management/Organisational Behaviour at Nottingham Business School, Nottingham Trent University, UK. His scholarly interests lie within the field of human resource development (HRD), strategic HRD (SHRD), training and development, diversity training and career development. Mitsakis has also worked as a senior tutor at the University of Strathclyde for three years and as a teaching assistant (external) at the University of Stirling for a year. Prior to joining academia, Mitsakis worked in two multinational organisations and he held experience within a marketing and financial analysis department.

Regina H. Mulder is Professor of Pedagogy/Educational Sciences and has been at the University of Regensburg, Germany, since 2004. She writes on topics in vocational education and training (VET) and learning in organisations, that is the design and evaluation of VET, innovative work behaviour, feedback, learning from errors, informal learning at work, team learning, leadership, proactive work behaviour in various domains (e.g. industry, health care, education, banking) and research methods. She is a member of several editorial boards (e.g. *Human Resource*

Development Quarterly [HRDQ], *Educational Research Review*, *European Journal of Training and Development* [EJTD], *Human Resource Development International* [HRDI]). She develops and carries out training for professionals on diversity management and organisational change.

Stefanos Nachmias is a principal lecturer at Nottingham Business School, Nottingham Trent University, UK. His research interests include an assessment of line managers' diversity needs, gender in the workplace and employment practices. He has co-edited several books, including *Inequality and Organisational Practice, Volumes I and II* (2019), and *Hidden Inequalities in the Workplace* (2018) (Palgrave Macmillan).

Lynn Nichol is Head of the Management and Finance Department at the University of Worcester, UK, Principal Lecturer in HR and Course Director for the Doctoral of Business Administration (DBA). She is a Chartered Institute of Personnel and Development (CIPD) and a senior fellow of the Higher Education Academy (HEA). Her own research interests are located in HRD. Her current work focuses on bridging the research-practice gap, HRD discourse, HRD in the era of machine learning and pedagogy for doctoral supervision. Her PhD was awarded for a thesis entitled 'Exploring Working Lives Through the Framework of the Psychological Contract: A Study of Clergy in the Church of England in the 21st Century'.

Louise Oldridge is a senior lecturer at Nottingham Trent University, UK, and a Chartered Member of the Chartered Institute of Personnel and Development (CIPD). Her research interests focus on women's careers, concepts of work, the intersection of work and care, equality, diversity and inclusion. With a generalist HR background in industry prior to joining higher education, Oldridge also works with practitioners and policymakers in the public sector.

Rebecca Page Tickell is Director of Education and Experience, Royal Docks School of Business and Law, University of East London, UK. Page-Tickell is an academic practitioner focusing on business psychology and HRM/D and OB. Her primary research focus is on developing a deeper understanding of the gig economy. A mediation practitioner and coach,

she also focuses on workplace conflict and mediation in particular. An experienced practitioner in learning and development (L&D)/OD she is fascinated by the impact of the gig economy in this area for individuals and organisations, including processes such as contract management as well as leadership and knowledge management implications. She is completing a PhD at Lancaster University and was joint editor of the book *Conflict and Shifting Boundaries in the Gig Economy: An Interdisciplinary Analysis* (2020).

Monika Rohrer is a lecturer at the Centre for Human Capital Management, School of Management and Law, Zurich University of Applied Sciences (ZHAW), Switzerland. She holds an MSc degree in Humanities from the University of Zurich. Prior to her engagement at ZHAW, she was responsible for several HR projects and HRD initiatives in various international companies based in Zurich and London. In her role at ZHAW, she teaches human capital management on BSc programmes as well as in continuing education programmes. Her research interests are HRD and digital competences, performance management, compensation and organisational justice.

Jim Stewart is Professor of Human Resource Development (HRD) at Liverpool Business School, Liverpool John Moores University, UK, where his role is to provide mentoring support and research leadership for colleagues teaching and researching Human Resource Management. He has authored and co-edited over 20 books on HRD as well as numerous articles in academic and professional journals.

Anna Walker is a senior lecturer at Bath Business School, Bath Spa University, UK, where she specialises in creativity and innovation at work. She has worked in both industry and academia focusing on innovation management and continues to work closely with industry. Walker completed her industry-funded PhD from the University of Manchester. Prior to that, Walker completed an MSc in Organisational Psychology from the University of Manchester and a BSc in Psychology from the University of Surrey. Walker is a fellow of the Higher Education Academy (HEA) and a member of the Economic and Social Research Council (ESRC)-Innovate UK Innovation Caucus.

Elaine Yerby is Senior Lecturer in HRM Practice at London School of Economics, UK. Yerby is a committed researcher-practitioner with specialist interests in diversity and inclusion and workplace conflict resolution. As an accredited work-based mediator she regularly conducts mediations as part of a pan-London Higher Education network. Her other research interests include career development in the HR profession and the impact on careers from the changing nature of work. She has also co-edited the book *Conflict and Shifting Boundaries in the Gig Economy: An Interdisciplinary Analysis* (2020).

List of Tables

Table 2.1	Sources for domain-specific supplementary search	21
Table 2.2	Search terms for different sources	22
Table 2.3	Results for studies conducted in different domains	24
Table 2.4	Results for studies conducted in finance	28
Table 2.5	Results for studies conducted in healthcare	30
Table 2.6	Overview of relationships between technologies and work outcomes for which evidence was found	38
Table 6.1	Participants' job role and sector	151
Table 9.1	Economic indicators in GCC countries	221



1

Introduction to Volume One: Future of Human Resource Development—Disruption Through Digitalisation

Jim Stewart, Mark Loon, and Stefanos Nachmias

1.1 Introduction

1.1.1 Background to the Volume

The purpose of this section is to introduce the reader to the main themes of the book. It seeks to outline the key context and concepts explored across the chapters and enables the reader to examine the importance of understanding future trends in Human Resource Development (HRD)

J. Stewart

Liverpool Business School, Liverpool John Moores University, Liverpool, UK
e-mail: J.D.Stewart@ljmu.ac.uk

M. Loon (✉)

Bath Spa University, Bath, UK
e-mail: m.loon@bathspa.ac.uk

S. Nachmias

Nottingham Business School, Nottingham Trent University, Nottingham, UK
e-mail: stefanos.nachmias@ntu.ac.uk

across the globe. The idea of producing this volume arose from the 20th University Forum for Human Resource Development (UFHRD) conference in Nottingham. Participants across the globe travelled to the city to advance HRD thinking and practices and, together, celebrate the achievement of the HRD community. This was a great platform to debate how organisations prepare themselves to address future HRD in establishing effective organisations. It was the beginning of a journey to produce a set of chapters that offer the reader insightful knowledge on how to address future challenges and opportunities. It is simply not enough to highlight the important role of academic debate in organisational development, but resources that can have a meaningful impact upon organisational and individual thinking must also be produced. It is essential to explore how HRD influences organisations and individuals from a multi-level perspective. This entails considering the effect of context, both internally and externally, as well as employee perceptions and understanding of HRD and what this means for learning, creativity and growth. Covid-19 reinforces this point and the need for HRD to shape future practices including innovation, performance, flexibility, well-being and management behaviour. The scale of the change is extraordinary as the pandemic has drastically changed, in just a few days, the way we work, communicate, socialise and learn. The range of the latter is not restricted to organisations or employment. Millions of children and higher education students across the world are studying at home, many in the case of the latter with support from academic staff now also facilitating learning from home. Some degree of such a scenario will remain with us for a foreseeable time. Home study is not, however, exclusively focused on formal learning contexts with many people taking advantage of tuition provided by professionals in, for example, cooking, baking, gardening and a wide range of crafts. Those learners and those providing tuition are doing so as a means of occupying some of the time that has become available to them because of the pandemic requirements to stay at home and are using technology to facilitate learning. Therefore, this volume could not be more timely given the new realities that everyone is now facing. People need to rethink how they learn, how they implement learning activities, identify new methods of learning resources and, most importantly, how

technology can change the way HRD is understood and conceptualised by the academic and professional communities.

On a personal level, it was sometimes difficult to understand existing management perceptions in addressing organisational HRD needs. We believe that any attempt to fully utilise HRD principles requires sufficient knowledge (both at individual and at organisational level), effective leadership skills and appropriate assessment of the wider business environment. It is now the time to take effective actions in changing old-fashioned perceptions on learning and development and offer the space where organisations can feel secure in making effective changes through evidence-based information. In an increasingly technology-driven business environment, significant changes are taking place which are challenging long-standing assumptions about the nature of work and the roles that humans will play in the workforce of the future (Schwab 2016; Manyika et al. 2017). Digitalisation is a significant and influential factor in shaping the roles of humans in future workforces, hence the title and focus of this volume. The following section provides a further assessment of how HRD can respond to some of the challenges associated with digitalisation and related changes in the future.

1.1.2 Status and Future of Digitalisation and HRD

Loon (2017) lists fifteen learning technologies current at the time of writing his book. These include virtual learning environments; digital/learning repository and document sharing tools; blogs (and vlogs); media streaming systems and video learning; synchronous communication tools; digital/video games; simulation games and mobile learning (p. 8). Some of these have come to the fore in response to Covid-19. For example, virtual learning environments have long been established but have probably been the saviour of being able to continue provision of higher education courses which have switched to online learning across the world. Synchronous communication tools such as MS Teams and Zoom have been the lifeline of many business operations by facilitating staff meetings, client/customer interactions and other processes carried out from homes rather than from or in offices. The technologies in the list are

also being utilised to deliver and facilitate learning required to prepare for a return to work during the crisis; for example, training employees on how requirements for continued social distancing will be met in workplaces.

The final item on [Loon's](#) list is the ubiquitous 'other' and thus implies more than the fifteen discussed in detail. Two forms of technology that enabled learning but are not specifically mentioned in the list are Webinars and Massive Open Online Course (MOOCS). Webinars can utilise a range of software and be incorporated into learning platforms and virtual learning environments. They have been found to be welcomed by learners as a development tool ([Gegenfurtner et al. 2020](#)). However, [Gegenfurtner et al. \(2020\)](#) make a number of points on possible drawbacks in the use of webinars. These include the length, timing and opportunities for interaction with those delivering the webinar. They also make the point that strong and reliable internet connections and bandwidth are essential requirements, which varies across countries. That point could, of course, apply to most forms of digital learning. MOOCS is an acronym for Massive Open Online Courses. Then use of the word 'courses' may suggest learning associated with education and qualifications. This impression may be reinforced by the origins of MOOCS in open educational resources, and so early MOOCS being made available by universities. However, while many are still provided by universities, this is no longer the case and other providers are now active. Those still provided by universities are also not necessarily linked to qualifications and can be taken for whatever reason an individual has for engaging in them. There is also no reason why employing organisations cannot take advantage of MOOCS by recommending selected courses to their employees as a means of meeting their development needs or indeed by incorporating completion of such courses in their own in-house development programmes. MOOCS are by definition open access. They are also, according to [Farrow \(2017\)](#), an argued exemplar of disruptive innovation in learning. Farrow though does also question the potential of MOOCS and not least by challenging the claimed levels of disruption that they are argued to represent.

We have chosen to highlight webinars and MOOCS because they are likely to have been among the most common responses to the 'stay at

home' conditions introduced by national governments. The former will have been a fairly easily implemented way for employers to continue to deliver learning to employees. The latter, if not necessarily being a first-choice response by employers, may well have enjoyed increased use by individuals with unexpected time on their hands at home. So, those two forms of digitalisation of learning are probably among the most common current examples at the time of writing during the Covid-19 crisis. For that reason, they may well also quickly become more ubiquitous post-crisis and so two of the more common examples in our everyday experience. There is one further aspect of digitalisation that we are confident will also become more common, although in a less overt or obvious manner. This is the use of learning analytics.

Learning analytics can be an umbrella term to encompass data, metrics and analytics which can be used to enhance the effectiveness of learning experiences. However, it is also used in a specific sense to refer to collection and analysis of learner behaviour and interaction with digital learning (Stewart 2017). For example, time spent on the learning programme or on individual components, such as reflective exercises or progress checks, can be monitored and compared across the learning populations. More sophisticated data such as time spent in discussion boards; number, nature and content of contributions to discussion boards and learner preferences for different components of multi-media programmes as measured by usage of each can be monitored and analysed. Analysis can also include differences against variables such as age, gender and time-related variables such as day of week or time of day. Statistical techniques are often applied to produce such analyses. The primary purpose of learning analytics is to improve digital learning experiences, sometimes for current learners where adjustments are possible but always for future learners. There are nevertheless legal and ethical questions that need to be addressed in the use of learning analytics (Jisc 2018). That said, it is believed that their use will continue to grow, especially in digital learning, and that the results of that growth are likely to lead to innovative and disruptive impacts on digital learning.

Artificial intelligence (AI) is the notion that machines can, one day, perform the same cognitive tasks as human beings. AI is a broad suite of technologies that also include machine learning and learning analytics. A

fundamental characteristic of AI, such as Apple's Siri, is its ability to learn effectively, which places learning in the same frame as intelligence. The case AI in HRD, or learning and development (L&D) as it is perhaps more widely known in the workplace, provides some key insights as to the trajectories that are likely to further grow in the future.

Read and Think

AI can help to address the long-standing tension of being able to be efficient in the delivery of learning and development opportunities while at the same time being able to personalise the learning experience. In many organisations, mandatory training such as those involving occupational health and safety have to be retaken regularly to ensure that staff's knowledge and skills are to up-to-date. However, while there are fundamental foundations of such training that needs to be shared by everyone, the typical nature of such training tends to be undifferentiated in terms of the experience of the person, their professional needs and the degree in which the training needs to be delivered on demand. At the person-level, AI enables the learning opportunity to be moulded to the needs of the person such as allowing learning to be shaped according to intrapersonal attributes and preferences of the individual such as their learning styles for those that prefer text-based, audio or audio and visual formats. In terms of professional needs, AI allows for sophisticated differentiation based on the person's role such as their organisational function for example outdoors or in the office, with heavy machinery or whether they are a manager. Different roles will have distinctive needs. Finally, AI can help track when a person last underwent training and remind them when they need refresher training, identify the learners' areas for improvement and provide more targeted training at the right time and pace.

1.2 Aims and Objectives

This volume has a primary focus on how what might be termed information and communications technologies (ICT) affect organisational and individual life through innovation, creativity and learning. Here, we use the term digitalisation to encompass emerging, as well as established, technologies. For example, learning analytics, virtual reality and artificial

intelligence are currently limited in their impact but will be much more significant in their influence on HRD in the future. It is also debatable whether these concepts are accurately placed under the umbrella term of ICT. The term ‘digital learning’ has also gained currency with the UK’s Chartered Institute of Personnel and Development (CIPD 2019). Hence, while the term ICT may have more familiarity, it is believed the idea of digitalisation is more appropriate to the content of this volume.

The scope of the volume is to capture the growing trends around digitalisation and how HRD can respond to these changes at micro and macro levels. The lessons of responding to Covid-19 to facilitate learning in a wide range of contexts will only add to the knowledge of how best to utilise technology in designing and delivering HRD. This volume provides a unique blend of chapters that offer critical assessment around HRD practices and outline how technology can be used as a learning tool to support individual and organisational goals. It aims to create a number of learning resources that will enable the reader to examine a range of wider implications on how to address learning needs in the future through utilising technological tools and innovations. Thus, it provides a sound platform for efficient and effective use of technology in HRD and for applying the lessons that will emerge from innovations arising from the work and non-work learning activities associated with the circumstances caused by Covid-19. In turn, this will enable practitioners to harness the potential benefits of digitalisation, and to avoid the potential drawbacks and pitfalls of simply being either fascinated or inhibited by technology, rather than assessing and evaluating how best to put it to productive use.

1.3 Book Content

With the aims and objectives in mind, this volume contains ten chapters (including this chapter) that cover distinct perspectives of the role of technology through the lens of HRD and its impact on organisations in a digitally connected world. The prominence of technology and organisations’ dependency on it of course varies. It can facilitate, mediate, moderate, impede or create opportunities. However, while the impact of technology is relative, the two viewpoints that most people agree on are

its high degree of ubiquity and that sooner or later technology will eventually become more disruptive and have a more significant impact, even in areas that initially seemed unlikely.

Chapter 1 provides an introductory assessment of the book's key dimensions and offers an insight into the key themes arising from the impact of technologies' disruption on HRD and organisations. The chapter allows the reader to get an overview of the context and access the key objectives of the book.

Chapter 2 offers insight to how new technologies, such as tools for digital communication or artificial intelligence, can have an impact on the quality of jobs by affecting work outcomes such as job satisfaction, performance, health or professional development. This chapter provides HRD with the empirical evidence it has been craving by demonstrating the degree of impact of technology in the field. The chapter contains an investigation that addresses the research questions; what are the effects of new technologies at work on individual work outcomes? and what are the implications thereof for the role of HRD to improve the quality of jobs? By reviewing and systematically analysing twenty-two studies, this chapter provides insight into the definition of technology and components of HRD from theories explaining relationships between the work context and different kind of work outcomes. Two sources were applied: studies from a concurrent review were reanalysed for the present purpose of identifying relationships between new technologies and work outcomes, and additional searches within domain-specific databases were conducted in finance and healthcare.

Chapter 3 compares their 'special way' regarding HRD education provision in the era of digitalisation to inform HRD professionals and policy makers on possible future actions. In particular the chapter undertakes a comparative assessment between the UK and Switzerland given that they are non-EU members and have autonomy in charting their own digital strategy. A nation's digital policy is ever increasingly important because technological advancements heavily impact the way people work while most recent socio-political and demographic changes (e.g. 'Brexit', economic instability, higher education reforms, generation attitude changes and a pandemic crisis) increase the need for critical insights on how digital competences of the workforce can improve and sustain business

competitiveness and sustainability. The European Union (EU) and most national governments globally have placed emphasis on digitally equipping graduates to satisfy governmental and organisational needs. While some organisations remain reluctant to foster their workforce's digital qualifications in the belief of having them poached by competitors, many view digitalisation as an opportunity to enhance employees' skillsets with company-specific competences for competitive advantage.

Chapter 4 addresses the calls for research exploring the implications of HRD and its likely role in the gig economy. This chapter reflects on a case study of a 'new law' digital platform firm that sought to implement an HRD strategy for its highly diverse and gig-based workforce. At a time when HRD has seen its role move from specialist to distributed, demonstrating ongoing relevance and contribution to global, real-world issues become paramount. The amorphous, often hidden and fast changing nature of the gig economy presents renewed challenges for scholarship and practice in HRD. This chapter proposes how a critical HRD lens can reassert HRD as a key discipline in supporting a broader range of interests and needs in the gig economy. The critical HRD lens contributes to understanding the nature of precarious work in the gig economy by exposing localities of power and disadvantage but also practical solutions for leveraging equality, capability development and knowledge transfer in the gig economy.

Chapter 5 presents and assesses key areas of HRD and how they can be used to enhance an organisation's creativity and innovation capability. Particular focus is paid to recruitment and selection (e.g. the personality traits that organisations should prioritise for developing innovation capability, such as extraversion and openness, and the gamification of their measurement), training (providing content-specific knowledge and building confidence in equal measure, facilitated by coaching) and reward (ideally non-financial rewards focused at team level), and where technology may play a role. These topics are reviewed within a multi-level context, that is, one that considers both individual and team levels. This approach is particularly important given that much of the innovation process is team-led as organisations seek a holistic understanding of the complex phenomenon of innovation. Also considered is the role of innovation climate, the development of which can be facilitated by HRD